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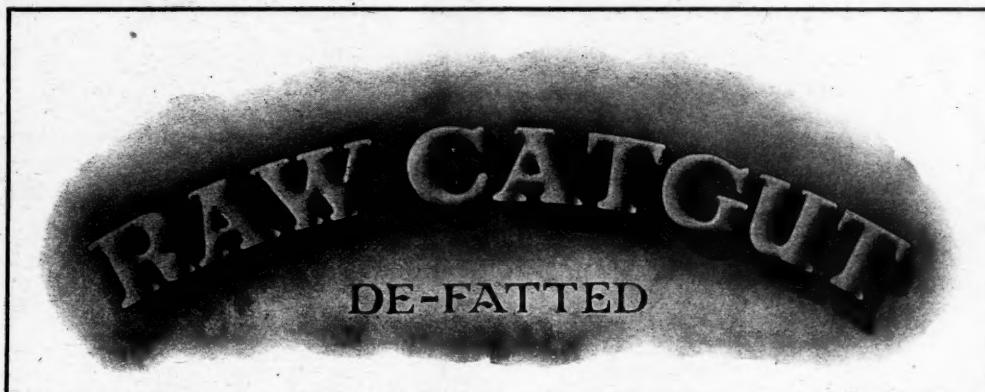
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THE MEDICAL JOURNAL OF AUSTRALIA.

VOL. I.—7TH YEAR.

SYDNEY: SATURDAY, MARCH 6, 1920.

No. 10.

THE PATHOLOGY OF INFLUENZA IN FRANCE.¹

By S. W. PATTERSON, M.D., D.Sc.,

Director of the Walter and Eliza Hall Institute of Research
in Pathology and Medicine, Melbourne.

I propose to relate our own experience in Rouen, France, and then to discuss some of the epidemiological and pathological points that have arisen as the result of work and observations during the recent epidemic.

We had read of the spread of so-called Spanish influenza in the newspapers, but our first contact with it in Rouen was the arrival, in April, 1918, of a hospital train full of "sitting" patients, the majority convalescing from malaria and sandfly fever, from Italy. Most of the Royal Army Medical Corps personnel and patients had suffered during the journey from a three to five day fever of great contagiousness. Several patients were admitted to the No. 25 Stationary Hospital on a Thursday for observation and investigation. The laboratory staff was busy getting ready to take blood and other cultures. I was working at a neighbouring hospital and on going over on the following Sunday afternoon, I found that 26 orderlies at No. 25 Stationary Hospital, several nurses and five medical officers, including the whole of the laboratory staff, had been taken ill on the previous days with fever up to 38.5° or 39.5° C.. Lieutenant-Colonel C. J. Martin, in his indefatigable way, was carrying on the investigation, although he was suffering from a severe attack. The blood cultures he had prepared from the personnel of the No. 25 Stationary Hospital yielded only one pathogenic organism, a hemolytic streptococcus.

As the majority of the patients had some cough, we investigated the mucus from the throat and made cultures with the sputum. In nearly every case we found small, Gram-negative rods which would not grow in sub-culture on agar unless blood was present, but would sometimes grow on ordinary agar smeared with tracheal or pharyngeal mucus. We found great difficulty in purifying the culture and even in keeping it going on citrated human blood agar. Eventually we obtained pure cultures on rabbit's blood agar. The bacillus was pleomorphic and conformed to the description of Pfeiffer's *Bacillus influenzae*. In three cases Lieutenant-Colonel Martin found that the fresh sputum examined daily swarmed with these bacilli, all lying in the mucus outside the leucocytes. On the 12th, 14th and 17th days respectively from the onset of the illness the picture changed with striking suddenness. The majority of the leucocytes contained the small bacilli, often to the number of 40 to 50 in one cell. This active phagocytosis continued as long as the sputum contained the bacilli. In many cells they were obviously undergoing digestion, being enclosed in minute vacuoles and having lost their power of taking up carbol-fuchsin, used to stain the films. In each of these cases, coincident with the phagocytosis,

improvement occurred in the condition of the patient. The sputum became more purulent, but rapidly diminished in quantity.

During the next few months we had many cases, but few deaths. The *post-mortem* examination of the patients showed the characteristic haemorrhagic broncho-pneumonia. Then the epidemic diminished, to rise again in October, November and December, with a great influx of cases of a more severe type. Clinically the most noteworthy features were the tendency to hemorrhages, including epistaxis, haematemesis, blood-stained sputum, which was usually profuse and watery, profound toxæmia and little evidence of consolidation of the lungs.

General Post-Mortem Appearances.

Frothy, sanguous fluid was often exuding from the mouth and nostrils. The veins of the neck were engorged and full of dark fluid blood. When the thoracic cavity was opened it was seen that the front of the turgid lungs was pushed upwards, usually full of air and crackling. Rupture of the air vesicles had taken place in many cases, leading to patches of acute emphysema beneath the pleura. There were frequently small areas of sub-pleural hemorrhages.

In a few cases there was a considerable amount of dark, straw-coloured fluid in one pleural cavity. In these, the pleura affected had patches of soft, greenish-yellow, thick fibrin scattered over the lower parts of the lung and between the lobes. From this exudate a pneumococcus was always grown. One half of the cases showed recent, soft fibrinous adhesions, scattered over one or both lungs. In some instances these were very dense, although recent, and in tearing through them, quantities of blood-stained fluid exuded from the mouth and nostrils, as it was expressed from the lung and bronchioles. In three instances there were old, firm fibrous adhesions of a previous pleurisy. The total recent pleural involvement was 60%.

In the remaining cases the pleura in front were pale, at times emphysematous and containing petechial hemorrhages, as described above. Posteriorly, over the engorged or consolidated lung, the pleural surface had lost its glistening appearance and was of a dark plum colour.

The Lungs.

The most striking feature was the general engorgement and water-logged condition of the lungs. Except in the grey consolidated patches, there was profuse exudation of frothy, sanguous fluid from the cut surface. In extricating the lungs, especially when pleural adhesions were present, frothy blood-stained fluid was expressed from the bronchi and poured out of the mouth.

Microscopically it was seen that the capillaries of the pleura, of the alveolar walls and of the walls of the bronchi were greatly engorged and were frequently ruptured, with the result that extravasation of red corpuscles had taken place. The walls of the larger vessels appeared to be normal and contained no fibrin.

¹ Read at a meeting of the Victorian Branch of the British Medical Association on February 4, 1920.

The alveoli were full of a homogeneous, coagulated, albuminous exudate, often containing red blood corpuscles, and in the more affected parts leucocytes and endothelial cells.

To this primary inflammatory, slimy oedema and congestion were added the following types of bronchopneumonic involvement.

(i) *The Peri-Bronchial Type.*—In the early stages this condition was revealed by small, bright red spots of consolidation, about 5 mm. in diameter, surrounding a small bronchus. On palpating the lung through the pleura and passing the finger over the cut surface, the impression was gained of small knots in the lung of firm consistency, resembling the sensation when feeling miliary tubercles. This condition frequently remained limited in extent, becoming grey and later softening, so that in the late stages the lung surface was pitted with small, discrete abscesses. The infection of the lung had apparently taken place through the wall of the bronchioles. The walls of the abscesses were composed of pulmonary alveoli. The lumen of the bronchioles was filled with corporeal exudate, disintegrated mucous membrane and, in the late stages, some organization of the exudate was taking place.

(ii) *The Usual Broncho-Pneumonic Type.*—Here the cut surface of the lung amidst general engorgement and oedema showed firmer, raised, bright red areas, varying in diameter up to 2.5-4.0 cm.. Later these areas became larger, dark red and confluent. In the next stages, greyish red patches were evident and in some instances the confluent, greyish red, massive areas resembled lobar pneumonia. The lobe, however, contained areas in various stages from dark red patches to patches in which softening and abscess formation were taking place. In some instances the whole alveolar part of the lung was diffused, and abscesses up to 5 cm. in diameter were present. These abscesses were full of broken-down lung and were traversed by strings of more resistant bronchi.

(iii) *Purulent Bronchitis.*—From parts of the lung in all stages of involvement, worms of yellowish pus could be expressed from the small bronchi.

(iv) *Acute Emphysema.*—In one patient, whose bronchitis signs dated from one to two days before death, only one small area of bright red consolidation near the hilus of the left lower lobe was found in addition to a very extensive haemorrhagic engorgement of all parts of the lungs. In all other cases protean combinations of the pathological varieties outlined above were found throughout the lungs. On the whole, however, the parts dependent in the dorsal decubitus revealed the most wide-spread and furthest developed involvement. In two cases there was definite evidence of tuberculosis. In one there was an old calcified nodule in the apex of the upper lobe of the right lung. In the other there were acute miliary tubercles scattered widely throughout the lungs. Smears from the lungs in this case contained *Bacillus tuberculosis*, and both the smears and cultures yielded *Bacillus influenzae*.

Respiratory Tract.

In all cases the bronchi contained frothy, blood-stained fluid. The mucous membrane was congested. In many cases this congestion was intense and ex-

tended up to and involved the epiglottis, being accompanied at times by sub-mucous haemorrhages. In cases of longer standing erosion and ulceration of the vocal cords had occurred.

The Heart.

The cavities of the right side of the heart were always much dilated. They were distended with dark blood and frequently firm, white clot extended to the root of the pulmonary artery. The left ventricle was usually small, firm and contracted, but in 20% of the cases the muscle of the left ventricle was softened and flabby. No acute involvement of the valves was observed. Subpericardial haemorrhages were noted in one case. In no instance was there an excess of fluid in the pericardium, nor was pericarditis seen. The myocardium was pale, usually soft, and revealed early fatty changes.

The Liver.

The liver was considerably engorged in all cases. A constant observation was the presence of patches of degeneration of the liver. In bodies examined even within two or three hours of death small sub-capsular areas of yellowish degeneration were found, principally on the upper surface of both lobes and at the free anterior border, extending sometimes to a depth of from two to three centimetres. Microscopical examination proved that these areas were fatty degeneration of the liver cells. In some instances the degeneration was wide-spread throughout the organ, but this may have been due to early *post-mortem* changes. In two cases recent fibrinous adhesions of the diaphragm to the upper surface of the right lobe had occurred.

The Spleen.

The spleen in one case contained a large infarct. The organ was small and firm in 22 cases, softened in 14 and large and softened in ten cases.

The Adrenals.

The adrenals in 50% of the cases were observed to be friable. In one case both adrenals contained haemorrhages involving the whole gland.

The Kidneys.

The kidneys were generally engorged, and there was some oedema of the cortex. The organs were usually pale. Microscopically it was seen that there was some fatty degeneration of the cells lining the tubules.

The Gastro-Intestinal Tract.

In one case in which the gastric veins were distended the patient had suffered from haematemesis, and there were numerous sub-mucous haemorrhages in the stomach wall. In the remainder of the bodies examined, these organs appeared to be normal.

The Brain.

In the brain and medulla of a patient who had died with signs of meningismus, no macroscopical abnormality was detected. The cerebro-spinal fluid proved on culture to have been sterile.

The Muscles.

In some instances interstitial haemorrhages had occurred in the lower part of the *rectus abdominis* muscle. In many cases the muscle fibres showed degeneration changes,

I have gone into the details of the *post-mortem* appearances, because I wish to remind you of them later on. The pathological picture may be summarized as follows:-

- (i.) Intense inflammatory oedema of the lungs;
- (ii.) Toxic degeneration of the special cells of all organs and tissues of the body;
- (iii.) Haemorrhages.

Bacteriology.

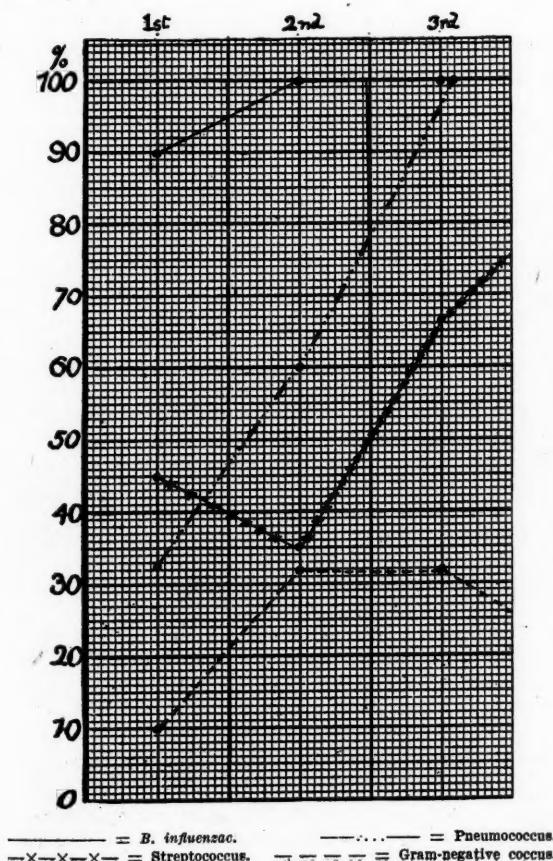
When our bacteriological methods of investigation became stabilized, a series of autopsies was submitted to analysis. The bacteriology was carried out by Dr. Marjorie Little and Sister F. E. Williams.

From the heart's blood from 44 patients

- B. influenzae* (Pfeiffer) was recovered once;
- Pneumococcus was recovered 12 times;
- Streptococcus was recovered once;
- Staphylococcus was recovered once.

The pneumococci isolated in twelve cases gave a greenish colouration on blood agar, fermented inulin, and were dissolved in bile. The attempts to group them with type sera from the Rockefeller Institute were not satisfactory. Only one strain remained constantly agglutinable by Type II. serum.

The results of the cultures from the bronchi and lungs may best be gathered from the accompanying diagram.



Captain P. Hartley, R.A.M.C., carried out experiments on the specific agglutinins for *B. influenzae* (Pfeiffer) with sera obtained from our patients.

Of 21 samples of serum from the heart's blood of patients dead of influenza

- 10 agglutinated one or more strains of *B. influenzae* in 1 : 200 dilution,
- 4 agglutinated one or more strains of *B. influenzae* in 1 : 100 dilution,
- 1 agglutinated one or more strains of *B. influenzae* in 1 : 50 dilution,
- 6 failed to agglutinate the strains against which they were tested.

Of 20 samples of serum from patients who ultimately recovered

- 4 agglutinated one or more strains of *B. influenzae* in 1: 200 dilution,
- 6 agglutinated one or more strains of *B. influenzae* in 1: 100 dilution,
- 4 agglutinated one or more strains of *B. influenzae* in 1: 50 dilution,
- 6 failed to agglutinate any of the strains.

The serum of one patient agglutinated a strain of *B. influenzae* on the sixth day in a dilution of 1 : 200. On the tenth day the serum agglutinated the same strain in a dilution of 1: 100. On the fifteenth day no agglutination occurred in a dilution of 1: 50. It was found to be impossible to group the strains of *Bacillus influenzae* according to agglutinable types.

During 1915 many cases of what for want of a better term had been called in the South African war "simple continued fever" were diagnosed as influenza in France. The medical authorities intervened and the term "p.u.o." (pyrexia of unknown origin) was introduced. At times this was referred to as "of the trench fever or influenza type." Purulent bronchitis was very prevalent and fatal in the spring of 1916 and 1917. The most frequent organisms found in the films and cultures made from sputum were *B. influenzae* and pneumococci, as recorded at Aldershot and Etaples.

Then came the "Spanish disease" in the late spring of 1918. It was a five-day fever with severe pains and prostration and some catarrh of the respiratory passages. In the following autumn of the same year came the pandemic of inflammatory, suffocative oedema of the lungs with great toxæmia and haemorrhages.

This raises the fundamental question of the definition of influenza. Is it the clinical picture or the epidemiological characters of the outbreaks and course of spread that make influenza an entity? Is it one disease or a group of diseases? And is the disease that prevailed in the spring of earlier years the same as occurred in the autumn of 1918?

Epidemiologically the extreme contagiousness of the disease was proved to be by the "drop" method from person to person. The infecting agent had been regarded since 1892 as the organism described by Pfeiffer as the influenza bacillus.

But in this epidemic a great many observers failed to find the Pfeiffer bacillus. This fact, together with its prevalence in many respiratory infections, especially in children, apart from epidemics, caused much doubt to be thrown on the claim that *Bacillus influenzae* of Pfeiffer is the cause of the disease. The case

for Pfeiffer's bacillus consists in the argument that as it is haemolytic, it is a true parasite, that it is constantly found in all stages of the disease, that it leads to an early, albeit evanescent evolution of agglutinating substances in the blood and that it is ingested by phagocytes concurrently with the onset of convalescence.

Post-mortem examinations of patients dying in the early stages of the disease gave a picture of haemorrhagic oedema of the lungs, with abundance of haemorrhages in the mucous and serous membranes of the respiratory tract and in other organs. This was regarded as an indication of a damaged condition of the vascular capillary system. The haemorrhages in the lungs paved the way for secondary infections, the results of which dominated the whole field in the later stages. The whole picture was thus thought to resemble pneumonic plague anatomically (Oberndorfer).

But you will call to mind the description I gave in an earlier part of this paper which showed that the lining of the blood vessels was no more affected than the special cells of the organs of the body. The wedge-shaped areas in the affected lung can be equally due to interference with a branch of the bronchial tree. The infecting agent can cause such a spoiling of the capillary wall that increased transudation of lymph and escape of red blood corpuscles may take place into the lung, which is the primary organ attacked.

The question of hemorrhages is of great interest, because of the similarity between the lungs of animals infected with filtrates or Noguchi's cultures of filtered sputum and those of patients dying in the early stages of influenza. The experimental results of Gibson, Bowman and Connor and of Wilson and Bashford confirming Nicolle and Lebailly point to an "invisible" or "filter passing" organism as the exciting cause.

The resulting areas of haemorrhagic oedema thus caused form an excellent culture medium for the activities of the bacteria of the respiratory tract, of which *B. influenzae* (Pfeiffer) is probably the first and most important invader, followed in the more prolonged cases by strepto and pneumococci.

Reference.

(1) Medical Research Committee, Special Report, No. 36, 1919.

MEDICAL EDUCATION.¹

SOME POINTS IN CONSIDERATION THEREOF.

By Edgar A. Falkner, F.R.C.S. (Eng.),
Toowoomba, Queensland.

There is every probability that in the course of the next few years a medical school will be established in Brisbane in connexion with the University. In anticipation of this, it is advisable that a scheme should be well thought out and planned beforehand and not left to be hastily drawn up at the last moment, without due and adequate consideration. With this end in view, I venture to bring before the

Queensland Branch of the British Medical Association a few ideas I have on the subject, which can form the basis of a discussion.

This medical school would have the advantage of commencing without the encumbrance of any vested interests, but with the assistance of the experience gained elsewhere and of the great consideration which has been given to this matter of late years.

The object of a medical school is to train men for the practice of their profession. In this there is now so much to be learnt that extraneous and unnecessary subjects must be eliminated and all efforts be devoted to insure a thorough knowledge, both practical and theoretical. In the case of Australian practitioners, who are frequently so isolated in remote districts, with none to refer to in cases of doubt or difficulty, it is especially important that the training should be thorough in every particular.

The medical course is a long one and the subjects of study require a certain amount of mental acumen and capacity for steady work. It is therefore necessary that a fairly high standard of general education should be demanded of those entering on the career. This is accomplished by the matriculation examination, which usually demands a pass in two languages besides English, mathematics and generally some other subject. Until lately Latin has been a compulsory language, but during the past year or two this has ceased to be the case in the British Isles. The medical degree of five of the English Universities can be obtained without a pass in Latin. Of these, London is one and, as you are aware, the London M.B. holds the highest rank among medical degrees. On the other hand, in these days of travel, a knowledge of French and German is very necessary. Those who have essayed to do any post-graduate work abroad realize how valuable a knowledge of these languages is and how futile the ordinary training in them has been. These subjects might, therefore, well be made compulsory and a very much higher standard demanded than is usually the case, so that the languages could be read and written fluently, if not also spoken.

Physics and chemistry now enter into the curriculum of every secondary school. If they were made compulsory for matriculation, it would save the necessity of their being taught during the medical curriculum, in which, with biology, they occupy most of the first year. Is it necessary, or even useful, to retain biology as at present taught by a professor of biology who knows nothing of medical science? Such biology as is required could be studied with pathology, to which it largely belongs in connexion with our profession. By doing this the first professional examination could be dispensed with and the student pass at once to the study of the subjects proper to the profession.

Thirty or forty years ago clinical work at the hospital was commenced on entering the medical school. This was found to be unsatisfactory, as those who experienced it will remember. Accordingly, it was ordained that the school work of anatomy and physiology must be got rid of before clinical work in the hospital was commenced. There is a desire on the part of some teachers to revert to the former system, which, however, I consider very inadvisable. The stu-

¹ Read at a meeting of the Queensland Branch of the British Medical Association on February 6, 1920.

dent should at once start on the subjects of anatomy and physiology and confine his work to them

As to the method of tuition, the Scottish universities have insisted on a large number of systematic lectures in every subject, a relic of the days when there were no text-books, and in this respect have been followed by the universities on this continent. There is now a great revulsion of feeling in this respect, even in Edinburgh, systematic lectures being considered a waste of time and energy. It is held that the efforts of the professor should be devoted to demonstrations and to guiding the student in his reading of the text-books.

Another matter that has been much under consideration is that of examinations as a test of fitness and knowledge of the subject. It is felt that attention should be paid to the steadiness and thoroughness of the work done by the student during his career, as well as to his capacity for passing an examination. This would be accomplished by the student's regular attendance at demonstrations and his note books of experiments, anatomical drawings, records of clinical cases, etc., being certified to by the professors and their assistants.

Anatomy and physiology should be taught with a view to their bearing on the practice of medicine and surgery and not as abstract sciences. For instance, with anatomy, fractures, dislocations and operations could well be demonstrated, while the anatomy of the living could be studied by X-rays and the examination of the nose, larynx, eye, ear, vagina, rectum and bladder by the various apparatus taught, so that the student would have a knowledge of these matters before entering on clinical studies. By devoting the time absolutely to anatomy and physiology, a period of two winter and one summer sessions should be sufficient for the acquisition of an adequate knowledge of these subjects. This would allow four summer and three winter sessions to be devoted to the more advanced studies, which all will allow, is not too much for the amount there is to be learnt.

Having disposed of the classes in these subjects, clinical work is now commenced and the teaching of pharmacology with dispensing, practical surgery and general pathology is started. General pathology would include bacteriology, the biology of parasites, study of tumours, the examination of morbid excreta, etc.. The special pathology of different diseases should be taught in conjunction with those diseases by the professors of medicine and surgery and not as a separate subject.

In the teaching of medicine and surgery a marked alteration is suggested in the system at present adopted in British and Australian schools, which is a relic of the old apprenticeship days, when students went for a certain period to "walk the hospital," picking up what knowledge they could from the practice and teaching of the staff, with little or no organization of the work and no co-ordination of the teaching, with the result that very few were fit to practice their profession unless they held a resident appointment after qualification.

The teaching of medicine and surgery should be under the absolute control of the professors of these subjects.

These professors should be appointed for a definite term of years, the appointment to be extended, if desirable, but not for more than a total period of fifteen years or so. Though it is not advisable to exclude private practice entirely, this should be made quite secondary to the work of teaching the students and to their hospital duties to which four or five hours a day should be devoted. This would necessitate much more adequate remuneration of the professors than is now the case. In order to provide ample clinical material, the medical and surgical work of the hospital should be under their control and each should have two paid assistants, who should give all their time to the work, besides the usual residents of the hospital. The professor would have full direction of the teaching of his subject, so the education of the students would be more systematized and thorough and the clinical material made the best use of, while the work of the hospital would be done more efficiently. With such a system as this, there would not be the waste of time and effort there now is and by working regularly the whole morning from eight to one, the afternoon would be left free for rest and recreation for the students and for private practice in the case of the professor.

The general hospital and perhaps some others would be controlled by the professors, necessitating the abolition or diminution of the present system of an honorary staff.

With regard to accommodation of the medical school, the less spent on elaborate edifices the better. Requirements vary constantly and none can foresee what will be required in twenty years' time. It is better to have inexpensive buildings serving the purpose desired rather than architectural triumphs. It is essential that the school be in close proximity to the hospital; in the school proper it would only be necessary to provide accommodation for the teaching of anatomy, physiology, bacteriology, pharmacology, etc.. Attached to the hospital would be required class rooms for demonstrations and clinical laboratories, so that the work could be carried on continuously with the actual clinical work in the hospital.

By not wasting money on architectural vanities, more would be available for completely equipping the school and adequately remunerating the teachers.

The points therefore which I wish to bring before you for discussion are:—

- (1) Elimination of Latin as a compulsory subject for matriculation.
- (2) Physics and chemistry compulsory for matriculation of such a standard as to save their being taught during the medical curriculum.
- (3) Elimination of biology as a separate subject.
- (4) Abolition of systematic lectures, the method of instruction being left to each professor or lecturer.
- (5) The student's work during his course to be supervised more efficiently and this to be taken into account as well as the examination.
- (6) The control of the hospital work to be in the hands of the professors, who should devote the greater part of their time and energies to hospital work and teaching, their private practice being quite secondary.
- (7) The appointment of professors for a certain term only.

(8) The buildings to be utilitarian and inexpensive, rather than architectural triumphs.

During last winter the Pathological Society of Edinburgh devoted a number of sessions to the discussion of medical education and have published an interesting volume containing the papers read and the discussions thereon. To this I am indebted for most of the ideas in this paper.

Since this paper was written some of the suggestions made have already been adopted. The University of Melbourne has ceased to require Latin for matriculation. The University of Adelaide requires physics and inorganic chemistry for matriculation and so eliminates these subjects from the medical curriculum. The Medical School of St. Bartholomew's Hospital, London, has appointed full-time professors in medicine and surgery with assistants, all of whom are debarred private practice.

Reports of Cases.

MASTOID DISEASE WITH CHOLESTEATOMA COMPLICATED BY A CEREBRAL ABSCESS.¹

By R. Graham Brown, M.R.C.S., L.R.C.P.,
Honorary Surgeon, Ear, Nose and Throat Department, Hos-
pital for Sick Children; Assistant Honorary Surgeon,
Ear, Nose and Throat Department, Mater
Misericordiae Hospital, Brisbane.

I would like to present this case to you this evening because, if for no other reason, it shows the result obtained after a severe operation upon the left mastoid process. There are, however, several interesting points besides.

The patient is a woman (E.T.), 29 years of age. She has been married for four years and has one child, aged two years.

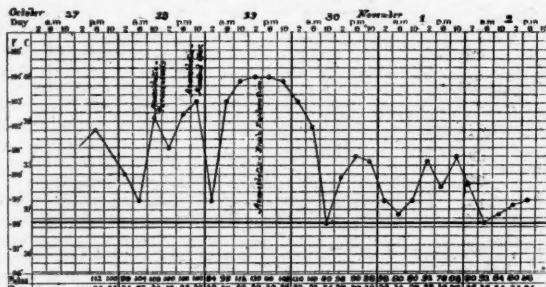
She was first seen by me at the Mater Misericordiae Public Hospital on October 26, 1919. She then complained that ever since she had had a miscarriage three months before, she had been suffering from pains in the left ear and left side of head. She was curedtted at the time without a general anaesthetic and she asserts that this procedure so weakened her that it was responsible for her head condition. She described the pain as gradually getting worse and at times nearly driving her crazy. For the previous 24 hours she had very severe pain in the left ear and that day there was a discharge of blood from that ear. On inquiry, I found out that ever since infancy she had suffered from a running from the left ear and that this discharge had ceased about the time of the miscarriage. The patient was in a very debilitated condition. On examining the ear, I found that there was no mastoid tenderness or redness, nor was there a bulging of any part of, or any area of congestion of, the drum head. All that could be made out was a "pin-head," blood-stained area situated in Shrapnell's membrane half way between the short process of the malleus and the margin. Calomel, 0.18 grm., and drops of glycerine and carbolic acid were prescribed, the patient being advised to return the following day for observation.

The next day I received a request to visit the patient in her home, as she was not in a fit state to leave the house. I found the patient sitting up in bed, with her hands clasped around her knees, rolling from side to side and complaining sorely that the pain in her head was driving her crazy. The examination of the ear revealed the presence of pus and a very small perforation in Shrapnell's membrane. There was still no evidence of mastoid tenderness or redness. The patient complained of giddiness, but, on getting her on to her feet, she, although displaying weakness, showed no tendency to fall. There had been no vomiting, nor was there any neck stiffness or spontaneous nystagmus. Slight jerking movements, however, were obtained at the extremes of lateral movements of the eyes. There was a slight injection

of the optic nerve heads, but no evidence of papilloedema. Tuning-fork tests showed full bone conduction for C2 on both sides, but there was a very slight positive "Weber" test to the left. The 7th, 8th, 9th and 12th cranial nerves showed no impairment. The hand grip on both sides was good, but there was a definite disdiadocokynesia on the left side. The abdominal reflexes were but slight; knee jerks were normal. There was no ankle clonus and the plantar reflex was downwards on both sides. The temperature was 38.8° C., the pulse rate 112 and the respirations 24. The patient was transferred to the Public Hospital for further observation. The next day (about mid-day) the condition being the same, a general anaesthetic was administered and Shrapnell's membrane incised. There was, however, no escape of pus under tension. That evening the temperature rose to 39.4° C. and the headache was even more severe. I performed a mastoid operation. I found that the mastoid process consisted of a mere shell of bone filled with cholesteatoma, which measured about 2.5 cm. The lateral sinus was exposed over an area of 1 cm. by 2 cm. and the *tegmen antri* was found to be necrosed over an oval area of diameters 0.8 cm. by 0.6 cm. The lateral sinus was covered with thick, greyish granulations, which were later cleaned off. I performed a Bondy's operation and was quite satisfied that I had shelled out the cholesteatoma from the whole cavity, the attic appearing to be shut off from the tympanum by adhesions. The whole exposed surface was then painted with pure carbolic acid. I punctured the lateral sinus with a small needle attached to syringe and withdrew 1 c.c.m. of fluid blood. The patient was put back to bed for further observation. It may here be mentioned that the whole of these manipulations were made through the usual "Heath" incision and no difficulty was experienced. The next day the temperature reached 40° C. and a definite psychical aphasia appeared, which later gave place to a partial word deafness; she persisted in calling her wedding ring a "little watch." She was very definite about this and could tell us all details concerning how and when she got the ring. Although about half an hour was spent in cross examination, no other word deafness could be discovered.

The disdiadocokynesia which was present two days previously, was more marked. I diagnosed a cerebral abscess situated in the 2nd temporal convolution on the left side and decided to explore the brain. On puncturing the dura and brain in a direction upwards and inwards, I obtained, at a depth of 2.5 cm., 1.5 to 2 c.c.m. of thick, blood-stained fluid. Although I made several punctures in various directions with the needle and also with a long thin knife, I was not successful in obtaining definite pus.

It is to be regretted that all the pathological specimens in this case were inadvertently destroyed. The blood examination, however, showed a leucocytosis. The wound was left open behind until November 20, when it was closed by sutures. The following day the mental condition showed definite improvement. The patient slowly, but surely, daily improved and left hospital on December 6, 1919.



The present condition is as follows: There is very little deformity. The drum head shows an absence of Shrapnell's membrane and outer wall of attic; the neck of the malleus is evident above the membrane, the head being absent. There is slight evidence of the cerebral hernia, which was present for some days after the operation. The cavity is dry and there has been no evidence of cholesteatoma since

¹ Read at a meeting of the Queensland Branch of the British Medical Association on February 6, 1920.

the operation. I attribute the absence of this material to the thorough removal and cauterization with pure carbolic acid at the primary operation and to the subsequent use of 2% silver nitrate solution in the later dressings. The patient is free from headaches and, with the exception of one or two "weak turns," has been free from giddiness. The eye ground is normal on both sides. The hearing is now: Watch 15 cm. (normal in my rooms = 120 cm.), whispered words, "66" and "55," she hears well at 30 cm. and the word "99" she hears badly. Likewise she hears the low fork badly.

This case points out an outstanding fact in aural surgery that not infrequently the surgeon has few facts to help him in his diagnosis. In this case all we had was earache and a small, blood-stained area in Shrapnell's membrane, together with a history of a long-standing otorrhoea, which had suddenly ceased three months previously. This brings to my mind a fairly recent case of facial paralysis of 4 days' duration with no other signs of mastoid disease, but with a history of a running ear of one week's duration, six weeks previously.

At the operation I found an extensive mastoiditis. I am convinced that in this present case we had to deal with an early cerebral abscess, that the word deafness was caused by a cystic condition in the region of Wernike's area and that the dislässadocynexis was caused by the pressure downwards of the early abscess upon the left cerebellar hemisphere.

IRREDUCIBLE INTUSSUSCEPTION IN CHILDREN: A SUCCESSFUL CASE OF RESECTION, WITH LATERAL ANASTOMOSIS.

By Norman J. Dunlop, B.A., B.Sc., M.B., Ch.M. (Sydney),
Honorary Surgeon to the Newcastle Hospital,
New South Wales.

I was interested in reading Dr. Harold Rischbieth's case in *The Medical Journal of Australia* for February 7, 1920, and must congratulate him on the result. I wish to add one more case to the recorded successful resections. My report of the case is as follows:-

H.McD., a female, *cir.* one year, was brought to me by her parents, with the history that for a week she had been suffering from vomiting and gastric disturbance and on the previous night she had had an attack of "internal hemorrhage," which greatly alarmed the parents. I saw her at about 9 a.m. She was obviously seriously ill and in a state of collapse. There was a copious discharge of blood and mucus from the rectum and the napkin she was wearing was very badly soiled. The look of the child and the story of the parents suggested intussusception. An examination of the abdomen revealed a tumour in the right side of the abdomen. I gave the parents an order for the admission of the child into the Newcastle Hospital and operated two hours later.

The Operation.-I opened the abdomen by an incision to the right of the middle line, separating the fibres of the rectus muscle by blunt dissection. The tumour was quickly found and easily delivered, when it was found to be an intussusception of the enteric variety, involving about 25 cm. of the ileum, the apex being about 2.5 cm. from the ileo-caecal junction. An attempt was made to reduce the intussusception by manipulation, but without success, and the peritoneal covering gave way in several places. No time was to be wasted, so I quickly resected the involved bowel. The distal portion appeared to me to be too close to the caecum to justify an attempt to perform an end-to-end union. I therefore speedily closed the cut ends of the intestinal canal and did a lateral anastomosis between the ileum and the ascending colon. The operation was done on a heated table and every care was taken to reduce the shock to a minimum. The operation, which was completed within half-an-hour, did not add greatly to her shock and after she had been returned to bed the condition of the little patient rapidly improved. She is now quite well and is enjoying a well-earned holiday in the country.

In desperate cases, such as these are, one has to make up one's mind quickly what is the best to be done and do it with the least possible delay compatible with efficiency. In this case a lateral anastomosis seemed to me to be the method of preference. I think in those cases which resist reduction readily, instead of wasting valuable time in use-

less manipulation, causing traumatism and increasing the shock, a resection, a short circuit, or an enterostomy should be done at once. The best method can only be determined by the merits of each individual case. A reliable, cool-headed anaesthetist is invaluable and adds considerably to the chances of success. In these days, when practitioners are on the look-out for cases of intussusception, the number of cases which are irreducible, is bound to be small, but the reports of cases in which resection has been successfully performed should encourage and stimulate us to attempt to do something, however extreme the case, so that lives may be saved.

With regard to the number of successful cases that have been reported, there is an interesting paper by Dowd, of New York, in the *Annals of Surgery* for May, 1913, in which he records a case of resection of one-third of the colon for irreducible intussusception in an infant five days old, thirty-seven hours after the onset of the symptoms. In the same paper he gives a record of intestinal resection in infants. He says: "The operation of intestinal resection for intussusception in little children has had a very high mortality rate." In Clubbe's Australian series of 127 cases of intussusception there were eight intestinal resections, with only one recovery, that in a child of eleven months. Eccles reported 89 cases at St. Bartholomew's Hospital; there were nine resections, but no recoveries. Makin's reports from St. Thomas Hospital records 12 resections with immediate union among 202 intussusceptions; only two of the twelve patients recovered and those were both adults. Koch and Oerum, reporting 400 Danish cases in children, gave details of eight resections with no recoveries. Curiously enough, Continental observers record intussusception in little children in much smaller proportion than do the writers from England, America and Australia. Their statistics refer to older patients; 30.8 years was the average for von Eiselsberg's series of thirteen resections for intussusception.

Dr. Charles E. Farr has searched the literature for cases in children less than a year of age who have recovered after intestinal resection for intussusception. He has found the following records: Petersen (*New York Records*, 1908, p. 438), an infant, 4½ months; Collinson (*Lancet*, 1907, p. 1087), an infant, age 3 months; Flint (*Proc. Conn. Med. Soc.*, 1911, Vol. CXIX., p. 254), an infant, age 11 months; Woolfenden (*Med. Press and Circ.*, London, Vol. XCIV., p. 8), an infant, age 3 months; Fairbanks and Vickers (*Lancet*, London, 1910, Vol. I., p. 364), an infant, age 7 months; Hughes (*Lancet*, London, 1912, September 23, p. 379), an infant, age 6 months. Besides the case of Dr. Clubbe's mentioned above, other Australian surgeons have recorded successful cases. My friend, Dr. John McKelvey, of Royal Prince Alfred Hospital, Sydney, has recorded a case. I believe that one of the surgeons of the Royal Alexandra Hospital for Children, Sydney, has also recently reported a case.

Reviews.

ANÆSTHESIA.

The aim of the author of "A Handbook of Anaesthesia"¹ to present to the student and practitioner a condensed account of modern anaesthetic views and practice is quite successful, since he presents briefly, but quite clearly, the essentials necessary to enable the student to assimilate the practical instruction of the hospital course and the practitioner to supplement his knowledge with up-to-date information. The condensation has been handled with good judgement, as the matter is unencumbered by controversial and indirectly pertinent material.

The introduction has been written by Dr. H. Alexis Thomson, C.M.G. He emphasizes therein the growing importance of good, in addition to safe, anaesthesia in surgical practice. "Good anaesthesia," he writes, "is absolutely vital to good surgery. Only a generation ago many surgeons professed to see no difference as to who gave the anaesthetic; at the present day no one willingly embarks upon a difficult operation without the aid of a skilled anaesthetist."

¹ *Handbook of Anaesthesia*, by J. Stuart Ross, M.B., Ch.B., F.R.C.S.E., with an Introduction by H. Alexis Thomson, M.D., F.R.C.S.E., and chapters on Local and Spinal Anaesthesia, by W. Quarry Wood, M.D., F.R.C.S.E., and upon Intratracheal Anaesthesia by H. Torrance Thomson, M.D., F.R.C.S.E.; 1919. Edinburgh: E. & S. Livingstone; Crown 8vo., pp. 214; illustrated by 54 figures. Price, 7s. 6d. net.

The chapters on local and regional anaesthesia and on intratracheal insufflational anaesthesia have been written by Dr. Quarry Wood and Dr. H. T. Thomson respectively. Such co-operation lends additional value to the work.

The physio-pathology of anaesthetic agents is briefly but sufficiently treated for the aims of a handbook. The important practical subject of shock is dealt with more freely; a short review is given of the various theories as to its causation, followed by detailed descriptions of the recently-introduced method of prevention and treatment. A special chapter is devoted to asphyxia, in which the causes, physiology, signs and treatment are dealt with.

The signs for guidance in the induction and maintenance of anaesthesia are detailed at length. A judicious article follows upon preliminary medication with morphine and atropine, etc.. The anaesthesia of nitrous oxide with and without oxygen or supplemental ether is fully treated in well-illustrated chapters. To ether anaesthesia is given the greater attention. Full treatment, with illustrations, is given to the open, the closed, the intra-tracheal, the colonic of Swathmey and the vapour methods. In the relatively short space given to chloroform anaesthesia the physiology and the administration by the drop, the Junker and by the dosimetric methods are briefly but concisely dealt with. The departing importance of chloroform in anaesthetic practice, even in Edinburgh, is reflected in the comparatively few pages devoted to it. Ethyl chloride is also well treated.

This is followed by a chapter on the use of mixtures of anaesthetic agents and by another upon their employment in sequence. The three next chapters deal with the accidents possible in practice, posture in relation to the various operative procedures and to the sequela of anaesthetic, narcosis, acidosis, etc..

Local and regional and spinal anaesthesia receive ample treatment in the following two chapters.

Three appendices complete the subject; two by the author present some investigations upon the vaporisation rate of ether. The other is from some work by Buckmaster and Gardner on the action of ether upon blood.

Public Health.

NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health, New South Wales, during the eight weeks ending February 21, 1920:—

	Metropolitan	Hunter River	Rest	Total
	Combined District.	Combined District.	of State.	
	Cs. Dths.	Cs. Dths.	Cs. Dths.	Cs. Dths.
Enteric Fever	78	9	33	130
Scarlatina	72	1	3	56
Diphtheria	284	7	53	354
*Pul. Tuberculosis	240	55	11	2
C'bro-Sp'l Menin.	5	2	0	0
Poliomyelitis	7	0	0	1

* Notifiable only in the Metropolitan and Hunter River Districts, and, since October 2, 1916, in the Blue Mountain Shire and Katoomba Municipality.

VICTORIA.

The following notifications have been received by the Department of Public Health, Victoria, during the nine weeks ending February 22, 1920:—

	Metro- politan.	Rest of State.	Total
	Cs. Dths.	Cs. Dths.	Cs. Dths.
Enteric Fever	40	2	121
Scarlatina	135	3	162
Diphtheria	397	10	357
Pulmonary Tuberculosis	132	83	66
C'bro-Spinal Meningitis	4	1	1
Puerperal Fever	2	0	3

QUEENSLAND.

The following notifications have been received by the

Department of Public Health, Queensland, during the seven weeks ending February 21, 1920:—

Diseases.	No. of Cases.
Enteric Fever	160
Scarlatina	31
Diphtheria	284
Pulmonary Tuberculosis	50
Cerebro-Spinal Meningitis	3
Malaria	1
Erysipelas	19
Anchylostomiasis	1
Puerperal Fever	3
Pneumonia	3
Influenza	171

SOUTH AUSTRALIA.

The following notifications have been received by the Central Board of Health, Adelaide, during the six weeks ending February 14, 1920:—

	Adelaide.	Rest of State.	Total.
	Cs. Dths.	Cs. Dths.	Cs. Dths.
Enteric Fever	2	1	29
Scarlatina	14	2	86
Diphtheria	12	1	89
Pulmonary Tuberculosis	7	13	53
C'bro-Spinal Meningitis	0	1	2
Erysipelas	0	0	4
Morbilli	49	2	389
Pertussis	1	0	68
Puerperal Fever	0	1	0
Influenza	0	0	5

WESTERN AUSTRALIA.

The following notifications have been received by the Department of Public Health, Western Australia, during the seven weeks ending February 14, 1920:—

	Metro- politan Cases.	Rest of State Cases.	Total Cases.
Enteric Fever	51	23	74
Scarlatina	32	15	47
Diphtheria	93	52	145
Pulmonary Tuberculosis	34	27	61
Puerperal Fever	1	0	1
Malaria	16	4	20
Beri beri	0	4	4
Erysipelas	2	2	4
Ophthalmia Neonatorum	1	1	2
Dengue Fever	0	15	15
Influenza	48	3	51
Malta Fever	1	0	1
Dysentery	2	2	4
Septicæmia	3	0	3

TASMANIA.

The following notifications have been received by the Department of Public Health, Tasmania, during the eight weeks ending February 21, 1920:—

Diseases.	Hobart. Cases.	Laun- ceston. Cases.	Country. Cases.	Whole State. Cases.
Enteric Fever	5	20	21	46
Scarlatina	0	0	2	2
Diphtheria	6	7	48	61
Pulmonary Tuberculosis	20	4	22	46
Ophthalmia Neonatorum	0	0	2	2
Puerperal Fever	0	1	0	1
Influenza	0	1	3	4

Dr. Harvey Sutton, the Chief School Medical Officer of Victoria, has been appointed Principal Medical Officer of the Department of Public Instruction of New South Wales. Dr. Sutton took up his new duties on March 1, 1920.

Dr. John Higgins (B.M.A.) has been re-elected Mayor of Clermont, Queensland.

The Medical Journal of Australia.

SATURDAY, MARCH 6, 1920.

Professor Sir Thomas Peter Anderson Stuart died on the last day of February, 1920. An account of his career and an endeavour to trace the far-reaching effects of his enormous influence on the development of the medical profession, of medical science and of sociological endeavour will be published in next week's issue. The whole of Australia mourns his loss.

The Australian Medical History of the War.

Reference has been made in these columns from time to time during the past two or three years to the work of the medical branch of the Australian War Records Section. The objective of this work has been the collection of reliable information concerning the activities, the achievements, the organization and the failures of the Australian Army Medical Corps and of the other medical services during the whole of the greatest war of all times. The Official Collator and his staff have laboured earnestly and diligently in seeking diaries, reports and private communications from the officers of the service. They have arranged the material, have examined it from the point of view of its utilization for official purposes and have endeavoured to supplement it in many ways. The medical records now occupy a safe position in the apartments of the headquarters in Melbourne.

The records, having been collected and arranged, must not be allowed to lie unused in the pigeon holes. There is a military value attached to it, if the information be applied to the problem of a reconstruction of the Army Medical Service. There is a medical value inherent in it, provided that the purely professional aspects be chronicled. There is a national value associated with it, if an adequate account of the working of the service be compiled. For these three reasons a history of the Australian medical services during the war must be written. The Department of Defence has recognized that the medical profession would desire to have such a history written in

order that there might be an authoritative, reliable record of the Australian Army Medical Corps in its relations to the great war. At first a proposal was put forward in which the word "popular" was unfortunately used. This word can be interpreted in so many ways that considerable difference of opinion existed as to what was actually contemplated. It has been replaced by a more general term. The Department has defined the proposed history through the good offices of the Official Historian, Mr. Charles Bean, and the Official Collator of Medical Records, Colonel Graham Butler, D.S.O.. A scheme of a comprehensive nature has been drafted. If the book is written on this basis, it will tell a splendid tale of the service from the early days in August, 1914, until the armistice on November 11, 1918. This history is not to be a series of biographies of medical officers; it is not to be a political effort aiming at the glorification of the selected few and the disparagement of the many. It is to be a true account of the service as a whole, seen in proper perspective, written without fear or favour, a detailed review of the difficulties that presented themselves in a gigantic struggle and of the manner in which these difficulties were overcome. We learn that a smaller, lighter and less technical book may be prepared as a unit history. With this we are not immediately concerned. The larger book, to which the Government has directed the attention of the medical profession, is to be sufficiently technical to satisfy those who are concerned and yet not so technical that it would have no interest for the educated layman. The Federal Committee of the British Medical Association in Australia had no hesitation in arriving at the conclusion that the history would meet with a warm welcome from the whole medical profession. It is certain that the public will look upon it with favour, if it can be shown that petty jealousies and ultra-laudatory exaltations are rigidly excluded. A war book written by an artist whose sole desire is to create a vivid picture, a fitting environment, an appropriate setting for the story of a gigantic achievement of an almost unattainable object, is bound to meet with universal approval.

The Department of Defence sought the opinion of the Federal Committee, as representing the medical profession, not only in regard to the desirability

of the publication, but also in regard to the means for carrying out the undertaking. A proposal was put forward which did not commend itself to the Federal Committee. This proposal has been answered by a counter proposal which, we venture to anticipate, will be acceptable to the Government. The Australasian Medical Publishing Company, Limited, which was formed for the purpose of issuing a medical journal and any other work affecting the medical profession, is prepared, under certain well-defined conditions, to undertake the publication of the history. With the support of the medical profession at its back, the Medical Publishing Company will undoubtedly be able to produce the work to the satisfaction of the medical profession. The selection of the author or authors will be undertaken with care and great deliberation. The Government will be asked to provide all the necessary facilities to enable the authors to carry out their responsible and difficult task with dispatch. The Australasian Medical Publishing Company will expect the medical profession to support it by purchasing copies of the book, in order that there may be adequate recompense for the labour spent on this monument erected to the Australian Army Medical Corps. Those who are associated with the undertaking, are full of enthusiasm for the task. We trust and believe that this enthusiasm will prove infectious and will spread rapidly and widely throughout the whole of the medical profession in the Commonwealth.

THE CONTROL OF VENEREAL DISEASE.

Five of the six Australian States possess legislative enactments aiming at the control of venereal disease. A Bill has been drafted and will soon be presented to the Parliament of the sixth State dealing with the same subject. The principles on which this legislation is based, comprise compulsion in the notification of infections and compulsion in the treatment by registered medical practitioners of all discovered infections. There is a tendency abroad to regard the treatment of infections as the ultimate and most important part of the campaign. While the importance of treatment cannot be gainsaid, it should be remembered that its object from the point of view of communal hygiene is to lessen the risk of a spread of

infection. Treatment is thus but a part of the general control of infected persons. Theoretically it should be possible to eradicate a disease without curing a single infection. Diseases, like syphilis and gonorrhœa, which are communicated by direct contact from person to person, could be prevented if the authorities could gain complete control of all persons suffering from these diseases in an infectious stage. The chances of success of the venereal diseases acts in the several States depend primarily on the recognition of every infection. The entire responsibility has to be born by medical practitioners. Each of the acts empowers the commissioner or professional administrator to deal very severely with any recalcitrant medical practitioner who neglects to notify every case that comes to his professional notice. Medical men are not always punctilious in regard to their duty in notifying infective diseases. No doubt the failure to notify occurs as a result of carelessness or forgetfulness, rather than any intention to disobey the law. Those who take this duty lightly, should consider that a single omission may result in the complete failure on the part of the authorities to eradicate a disease in a given district. In the past a few medical practitioners have been prosecuted for this breach of the law and severe penalties have been inflicted. The medical officer responsible for the administration of the public health acts is always reluctant to take strong measures. In the case of the campaign to gain control over venereal infections, disinclination to proceed against a colleague is unjustifiable, because of the tremendous importance of the first step in the control of these ghastly infections. It may therefore be said that success in these efforts is excluded unless medical practitioners regard the duty of notifying all cases as a solemn trust and unless those responsible for the administration of the acts harden their hearts and seek a deterrent penalty for every dereliction.

A real difficulty may arise in the carrying out of this part of the work. Infections are not always manifest. At times it may be necessary to seek assistance from the laboratory and from those specially trained in urological or dermatological practice. In this connexion, the obligation rests on the Government to provide facilities to enable every medical

practitioner who needs this form of assistance, to obtain it. In each centre there should be full equipment of cystoscopical and urethroscopic apparatus; bacteriological laboratories should be established in connexion with all the larger hospitals or treatment centres. In country districts it may not be easy to insure that a medical practitioner trained in bacteriological and biological technique or skilled in the use of urological instruments, is available. In this event, the authority should engage the services of suitable specialists to visit these centres at short intervals and to render the aid sought of them by the local practitioners. The advantages of this form of team work needs no elaboration. Under war conditions it was always provided and the results were admirable. It may be urged that a very large number of bacteriologists and urologists would be required to cover the needs of the whole Commonwealth. We are persuaded that if a reasonable remuneration were offered for this work and the men engaged in it were given the right to charge fees of all well-to-do patients, the supply would soon meet the demand. It may further be pointed out that the expense incurred would be considerable. To this objection we would reply that the control of wide-spread diseases, like syphilis and gonorrhœa, necessarily involves the expenditure of a very large sum of money. The Government who is unwilling to find the necessary money, is not in earnest and failure is then inevitable. It is a platitude to state that no price is too high to get rid of this terrible scourge.

The next factor on which success or failure depends, is the control of the persons whose infections have been notified. Since the notification in the first instance is anonymous, the maximum amount of coercion that can be exercised, is contained in the manner in which treatment is carried out and in the vigilance of the authorities. The weakness of the acts lies in the fact that the authorities have no means of tracing the sources of infection save in the rare cases when the medical practitioner is required to notify the name and address of his patient. Some good can be done by the treating practitioner, if he will make a serious effort to use strong persuasion with his patient. The lesson taught by the war in regard to the control of the infected is important. Even under the

conditions of military discipline, it was found to be vain to look for universal abstinence on the part of infected men. The military authorities adopted the wise expedient of offering the men prophylactic assistance, so that the risk of a spread of infection might be greatly reduced, if not altogether removed. Here, again, success depended on the thoroughness of the medical officers and on the reliability of the trained personnel. If the defects of the enactments are recognized, the disadvantages will be lessened. By the provision of well-equipped in- and out-door accommodation for treatment, by the exercise of a rigid control of the personnel employed in the clinics, by the establishment of prophylactic depôts in connexion with the clinics, by systematic and organized efforts to control the patients as long as they are infectious, by these and similar measures we may hope to reduce the amount of venereal infection in the Commonwealth very materially.

BERI-BERI, SCURVY AND RICKETS.

The committee appointed jointly by the Lister Institute of Preventive Medicine and the Medical Research Committee to consider and report upon the questions connected with the accessory food factors, have examined all the evidence available in regard to beri-beri, scurvy and rickets. They have taken up a deliberate and definite attitude on these questions.¹ That beri-beri and scurvy are deficiency diseases has now been placed beyond doubt. Beri-beri is a severe form of peripheral neuritis. It occurs in a dry type, characterized by great wasting, anaesthesia and paralysis, and in a wet form characterized by oedema and a tendency to heart failure. Beri-beri occurs chiefly among rice-eating peoples. Eijkman and Grijns and Braddon, Fraser and Stanton have shown that the disease does not occur in those rice-eating communities where the cereal is unmilled. The symptoms can be removed by the addition of the embryo and pericarp to the milled or polished rice. Milling by steam and polishing of rice with tale between sheep skins result in the complete removal of the husk and embryo with the pericarp. McCarrison found that when birds are fed on a neuritis-producing diet, all the organs save the adrenals undergo a process of wasting. The adrenals are hypertrophied and he claims that there is a parallelism between the increase of the adrenaline production and the occurrence of hydro-pericardium. On these findings he has elaborated a theory of increased adrenaline production in the oedematous form of beri-beri in man. A great amount of work has been carried out with a view to the determination

¹ Report on the Present State of Knowledge Concerning Accessory Food Factors (Vitamines). Compiled by a Committee appointed jointly by the Lister Institute and Medical Research Committee. Special Report Series, No. 38, 1919. See also *The Medical Journal of Australia*, February 28, 1920.

of the distribution of the anti-beri-beri vitamine in ordinary foods. Chick and Hume have discovered that this substance is concentrated in the rice germ, but is not plentiful in rice bran. The curative value of rice germ is double that of wheat germ and eight times that of wheat bran. Lentils have a value somewhat less than wheat germ. Pressed yeast is less potent as a curative substance. Egg yolk and ox liver contain about one quarter of the vitamine contained in an equal weight of rice germ. It has been found that 2.5 grammes of wheat germ suffices to cure fully-developed beri-beri in pigeons. The active substance is highly resistant to heating and dessication. It is soluble in alcohol and in water. When heated to temperatures exceeding 100° C. for 40 minutes, its curative action becomes impaired. On these grounds the members of the committee have concluded that the anti-neuritic factor is identical to the water-soluble B vitamine. This view has recently been attacked very energetically by H. H. Mitchell. It must, however, be admitted that actual proof of the identity or non-identity of the two factors is lacking and that this question is still in doubt. On the one hand the committee show that the distribution, chemical characters and behaviour to physical changes are peculiarly similar. On the other, there are some biological differences which may be essential or may be due to associated substances or special responses to the factor by different organisms. All attempts to isolate the factor chemically have failed. It has been claimed by Funk that it can be prepared in crystalline form by precipitation with silver nitrate-baryta, while Hofmeister maintains that it forms a double salt with gold when prepared as a chloride. The latter investigator believes that the substance belongs to the pyrimidine series.

The history of exploration provides much interesting and significant information concerning the pathology and aetiology of scurvy. It has long been known that this disease arises after considerable periods of deprivation of fresh vegetables and fruits. Bachstrom in 1734 denied that the cause of scurvy resided in cold, sea air or the use of salt meats. He announced that the total abstinence of fresh vegetables and fruits was the true cause. At a later date the theories have been put forward that scurvy is of bacterial origin or that it is produced by the poisonous products of putrefying meat or fish. These views have been shown to be untenable. Quite recently McCollum has called attention to the observation that, while guinea-pigs manifest symptoms of scurvy when fed on a diet of milk and grain, rats are apparently unaffected. He and his co-workers have therefore suggested that scurvy is caused by constipation due to unsuitable rather than to defective food. It has been shown that the quantity of milk required to prevent the appearance of scurvy in guinea-pigs is approximately 100 c.c.m. a day, while it is stated that rats require less. The evidence of this, it would seem, is speculative. Grain has no anti-scorbutic action. The members of the committee account for this difference in rats and guinea-pigs by accepting a smaller requirement of the anti-scorbic substance by rats than by guinea-pigs. It has been shown that, while dry cereals and pulses are incapable of pre-

venting scurvy, the same seeds act well if allowed to germinate for two or three days prior to ingestion. It has further been shown that the anti-scorbutic value of various foodstuffs can be ascertained experimentally by adding these substances to a diet consisting of dry grain and autoclaved milk given to guinea-pigs. The vitamine concerned in the prevention of scurvy is found primarily in vegetables. Raw cabbage is rich in these substances, while the juice of raw swedes comes next. Lemon and orange juice have powerful anti-scorbutic properties. This is lost when the juice is preserved. Boiling of cabbage for a half of an hour destroys the action. Lime juice is much less potent than fresh lemon juice. Similarly it has been determined that dried vegetables and fruits are practically devoid of this property. Milk and meat only prevent the onset of scurvy when taken in large quantities. From these and other experiments it has been found that the anti-scorbutic factor is readily destroyed by heat and drying. Holst stated that the anti-scorbutic factor was more stable in acid than in neutral media. Harden and Zilva have shown that even small quantities of alkali at room temperature attack the factor. The committee warn against the use of alkalies or acids for the purpose of cooking vegetables. The inclusion of acid in the warning follows the demonstration by Delf of the destruction of the factor by the addition of citric acid. The anti-scorbutic factor differs from the anti-neuritic factor by being less stable toward heat and drying and by remaining unadsorbed by substances like Fuller's earth or colloidal iron. When a mixture of autolyzed yeast and lemon juice is treated with Fuller's earth, the anti-neuritic factor is found to be adsorbed on to the particulate material, while the anti-scorbutic factor remains in solution. Much practical information has been collected in regard to the effect of diets containing the three vitamines, the fat-soluble A, the water-soluble B (supposed to be identical to the anti-neuritic factor) and the anti-scorbutic factor, or any one or any two of them on human beings. Under ordinary circumstances but little difficulty is experienced in providing the body with an ample supply of all three. Where fresh vegetables and fresh fruit are unobtainable, there may be difficulty in supplying a sufficiency of the last named. The committee point out that vegetables should be cooked as rapidly as possible to prevent the deterioration of this factor. Slow cooking in a hay box or other slow self-cooker is disadvantageous as compared with rapid boiling for 20 minutes on an open fire.

One of the members of the committee, Dr. E. Mel lanby, has taken up the study of the aetiology of rickets and has endeavoured to demonstrate that this, too, is a deficiency disease. The committee have accepted his views. The evidence offered comprises the records of experiments conducted with puppies. Four standard diets were set up. Puppies fed on 20 c.c.m. of whole milk, oatmeal porridge, rice and common salt gradually developed a form of rachitis. The changes appeared more rapidly when the quantity of whole milk was reduced to 175 c.c.m. and white bread was substituted for the oatmeal and rice. Diets consisting of 175 c.c.m. of separated milk, 70% of wheaten bread, 10 c.c.m. of linseed oil, 10 grammes of

yeast and from 1 to 2 grammes of sodium chloride or of 350 c.cm. of separated milk, together with the other ingredients, as well as 3 c.cm. of orange juice, induced the signs of rickets within about six weeks. Having established the possibility of producing the disease by feeding puppies on these diets, Dr. Mellanby proceeded to add various foodstuffs in varying quantities to ascertain the distribution of the anti-rachitic factor. The appearance of the disease was completely prevented when the quantity of whole milk was increased to 500 c.cm. *per diem*. The factor was traced to cod liver oil, butter, suet, olive oil, arachis oil, lard, cotton seed oil, meat, meat extracts and malt extracts. The disease developed while the animals were ingesting bread, oatmeal, rice, separated milk in any quantity, yeast, linseed oil, babassu oil, hydrogenated fat, calcium phosphate, sodium chloride, meat protein and milk protein. A consideration of these groups reveals that the protective substance is not a necessary association of fats or oils, nor of extracts. The fact that some vegetable oils, such as linseed oil, contain little or no anti-rachitic factor, points to the probability that it is a substance accompanying the fats of butter and cod liver oil, rather than a constituent part of these substances. Dr. Mellanby points out that the preventive substance cannot be either the water-soluble B vitamine, because yeast does not inhibit the development of rickets, nor the anti-scorbutic vitamine, because orange juice is powerless to prevent it. He therefore examines the question whether it is to be identified as the fat-soluble A or whether it is a fourth kind of food accessory factor. The balance of the evidence at present available would suggest so considerable a divergence between the two that a theory based on the assumption on the anti-rachitic accessory factor being the fat-soluble A appears to be excluded. Dr. Mellanby, however, is inclined to leave the decision open, largely because it has been alleged that the well-marked grading of the vegetable fats in regard to the anti-rachitic factor has not been substantiated in experiments with rats. Hess and Unger have found that rickets can be prevented by the administration of cod liver oil. They experimented with the infants of negro women in the Columbus Hill district of New York. It is stated that the cod liver oil was much more effective as a prophylactic than breast feeding. Fat-soluble A is abundantly present in milk. It is suggested that the negro mothers were ingesting too little fat in their diet and that the amount of milk secreted was small. These arguments, however, appear to be insufficient to reconcile the facts with the claim of the identity of the two vitamines. The committee recommend breast feeding, in spite of this contention, as the most effective means of preventing rickets. They state that if additional fat is needed, cod liver oil is the best. We would urge caution in this regard. It may be true that rickets is a disease produced by the deficiency of an accessory food factor. Dr. Mellanby's experiments appear to supply proof of this. But these experiments show that the factor is not inseparably associated with any particular form of fat. It may be convenient to treat manifest rickets with cod liver oil, but this is a very different thing to supplementing mother's milk by added fat. A far better proposal

would be to give the mother the cod liver oil. If the disease is produced by a vitamine which is contained in this oil, the vitamine would be elaborated in the milk in the most suitable form.

THE ERNEST HART MEMORIAL SCHOLARSHIP.

In reply to an inquiry from the Council of the Victorian Branch of the British Medical Association, Dr. G. C. Anderson, the Deputy Medical Secretary, has forwarded the following regulations dealing with the Research Scholarships of the British Medical Association. In his covering letter he states that:

It is open to any and everyone, whether or not a member of the British Medical Association at home or abroad, to apply for a research scholarship or a science grant.

Regulations as to Research Scholarships.

1. A scholarship, known as the Ernest Hart Memorial Scholarship, of the annual value of not more than £200, and three other research scholarships, each of the annual value of not more than £150, shall be awarded annually by the Council, on the recommendation of the Science Committee, if suitable candidates present themselves. The Ernest Hart Memorial Scholarship shall be awarded to a candidate whom the Science Committee recommends as qualified to undertake research in the department of State medicine. The other three scholarships shall be awarded to candidates whom the Science Committee recommends as qualified to undertake research into some subject relating to the causation, prevention or treatment of disease.

2. Each scholarship shall be tenable for one year, commencing on October 1. A scholar may be re-appointed for not more than two additional terms.

3. In the award of scholarships, preference shall be given to members of the medical profession. In any case in which the Science Committee shall, for special reasons, recommend the appointment of a non-medical candidate, a statement of such reasons shall be submitted to the Council.

4. Scholars shall be required, except as herein stated, to devote the whole of their time to the work of research, but a scholar may hold a junior appointment at a university, medical school or hospital, if the duties of such appointment will not, in the opinion of the Science Committee, interfere with his work as a scholar.

5. A scholarship of the British Medical Association may be held concurrently with another scholarship, but the scholar shall not receive from the British Medical Association a sum greater than the amount required to bring the total sum received during one year to £250.

6. Applications for scholarships shall be in one of the forms prescribed by the Committee, copies of which may be obtained on application to the Medical Secretary, 429 Strand, W.C.

7. The award of scholarships is subject to the following conditions:

- (a) That the work of the scholar be open to inspection by persons appointed by the Science Committee for the purpose;
- (b) That the work be conducted in a manner satisfactory to the Committee;
- (c) That the scholar present, not later than June 30 in the year of tenure, a statement, satisfactory to the Committee, of the work done by him.

The publishers of the *Index Medicus* have found that much difference of opinion exists in regard to the advisability of altering the present biographical arrangement of the contents of the publication. They have therefore determined to retain the old arrangement unchanged for the year 1920. Many valuable suggestions have been made and the publishers hope that it may be possible to modify the *Index Medicus* on the lines of some of these suggestions next year. Their aim is to render it a more valuable and serviceable publication.

Abstracts from Current Medical Literature.

OPHTHALMOLOGY.

(80) The Estimation of Distance.

Aviation has made it necessary to be able to estimate the ability of men to judge distance and H. J. Howard discusses the subject generally and describes his apparatus by means of which the "stereoscopic vision" of the individual may be stated numerically (*Amer. Journ. Ophthalm.*, September, 1919). The hand stereoscope in use merely classifies men as "normal" or "not normal" and affords no means of expressing comparative ability. A low stereoscopic vision is a fertile source of disaster, especially in landing. Certain factors which determine judgement of distance may be common to both binocular and monocular vision. These are: (i.) Size of the retinal image, (ii.) accommodation, (iii.) motion parallax, (iv.) terrestrial association and (v.) aerial perspective. Factors which operate only with binocular vision are: (i.) binocular parallax and (ii.) convergence. By a process of elimination the author concludes that the binocular parallax is the factor most characteristic of the individual. This is the one determined by his apparatus, which is modified from that of Brookshank James, of England. The apparatus consists of an illuminated box, within which two blackened rods may be placed vertically at any position along two lines from the front to the back. Each rod may be placed independently with a constant lateral separation of 60 mm. Only the central portion of the rods is visible through a shutter in front to an observer seated, with head fixed, in a direct line six metres away. The observer is required to state which of the two black rods is nearer to him, the right or the left. By means of a formula the author has constructed tables giving the values of the binocular parallactic angles for each interpupillary distance and depth differences. One hundred and six subjects were examined. They varied greatly in ability, being classified into twelve groups based upon their depth-difference thresholds, that is, the least depth difference at which a subject's judgement is correct, not less than 75% of the time. The test shows that binocular ability is twenty times that of the monocular, besides being much more rapid. Monocular vision is liable to a "reversal" deceptor, e.g., a valley may appear in perspective as a hill or vice versa. The projection of objects running horizontally at varying levels was shown to be more difficult.

(81) Training of the Blind.

G. E. de Schweinitz devotes a considerable part of a paper dealing with the refitting of the blinded and the blind to a description of the work at St. Dunstan's, London (*New York State Journ. Med.*, September, 1919). The re-education and training there may be divided into that which pertains (i.)

to the class-room, (ii.) to the workshop, (iii.) to the recreation centres and (iv.) to the follow-up system after the man has been placed in a wage-earning occupation. A bald enumeration of the avocations opened up to the blind gives some idea of the work. These occupations include mat-making, cobbling, weaving, basket-making, carpentry and joinery, teaching, poultry-farming, massage, shorthand writing in Braille, piano-tuning and insurance agency. In the State's institution at Evergreen elective courses are planned for professional, commercial, industrial, agricultural and home work. At the civilian institution at Overbrook, Pennsylvania, the work may be classified as: (i.) general or pre-vocational education, (ii.) vocational education, (iii.) field and placement work. The general education comprises (a) department of physical education, (b) department of manual training, (c) literary department, (d) department of music. Field and placement work refers to the admission of blind children into school and the suggestion of lines of remunerative employment. The experience gained in the settlement of the war-blinded is sure to expand the ideas on the education of the civilian blind.

(82) Extirpation of the Lachrymal Glands for Epiphora.

C. R. Holmes advocates extirpation of the lachrymal glands, in addition to excision of the lachrymal sac, for epiphora and bases his opinion upon his experience since 1890 (*Archives of Ophthalm.*, July, 1919). The results, he reports, are uniformly good; in two cases he mentions some dryness of the cornea a few days after operation, which was quickly followed by sufficient moisture to maintain health. The incision along the orbital margin extends from the centre of the arch to 3 mm. below the outer canthus. The fascia or *septum orbitale* is cut along the orbital margin. The gland is pinkish-yellow in colour and is not easily distinguished from orbital fat, which can be held aside by retractors. The anterior edge of the gland is generally 2 to 3 mm. upwards and backwards from the orbital margin. The gland tissue is friable and should be carefully dissected away in its entirety. Generally, the palpebral portion is left. The sac and gland may be removed at the same time.

(83) Spontaneous Rupture of Morgagnian Cataract.

J. de J. Gonzalez reports a case of spontaneous rupture of a Morgagnian cataract in an old lady of 75 (*Amer. Journ. of Ophthalm.*, October, 1919). Fourteen years previously she had been successfully operated upon for a cataract in the right eye. The cataract in the left eye was then mature. Without any apparent cause she was suddenly seized with severe pain in the left eye, which presented severe ecchymosis and hyperæmia. The anterior chamber was filled with milky fluid and the cornea dulled; the tension was raised. The patient refusing opera-

tion, treatment consisted in eserin drops and 5% dionin until an intense lymphocytosis was produced. The pain ceased and the liquid was absorbed and the eye became quiet, but the nucleus of the lens persisted and obstructed the pupil.

(84) Homonymous Hemianopia in Malaria.

A. Leonard Weakley's patient was a lieutenant, aged 28, admitted to hospital with malignant malaria and examined by the author on account of bad sight (*British Journ. Ophthalm.*, July, 1919). The pupils were slightly larger than normal and reacted sluggishly to light. The vision of the right eye was $\frac{1}{2}$ " and the left $\frac{1}{4}$ ". The fundi were healthy and the discs of good colour. The fields show right homonymous hemianopia, absolute and complete, for colours and white. The condition began suddenly, three weeks previously, with severe head pain followed by a period of unconsciousness. The patient now suffers from loss of memory and confusion of thought. There is probably a lesion near the angular and supra-marginal gyri and the posterior part of the internal capsule on the left side; possibly a blockage of a vessel or vessels by malarial parasites.

(85) Conjunctivitis Due to Food Anaphylaxis.

F. A. Conlon reports several cases of patients who suffered from periodical attacks of conjunctivitis, which were proved to be due to certain articles of diet (*Amer. Journ. Ophthalm.*, July, 1919). A young man had recurrent conjunctivitis for five years during the summer and autumn. He himself discovered that it came on after eating strawberries or tomatoes. On leaving these off, his conjunctivitis disappeared. It recurred after eating a catsup which contained tomatoes. In the case of a man of 56 years, eggs were the offending protein and in a third case it was flounders. The diagnoses were confirmed by Walker's protein skin tests. This consists in applying various protein on several small cuts on the flexor surface of the forearm. A positive reaction consists of a raised white elevation or urticarial wheal.

(86) New Operation for Conical Cornea.

L. Webster Fox has operated upon ten cases of conical cornea with gratifying results in the following manner (*Amer. Journ. of Ophthalm.*, October, 1919). A corneal section is made with a von Graefe's knife about 3 mm. above and parallel to its horizontal meridian. An iridectomy is performed. The upper margin of the lower corneal section is grasped with forceps and a semilunar strip of cornea removed by scissors measuring about 2.5 mm. by 6 mm.. Two fine silk sutures then unite the upper and lower corneal segments. The insertion of the needle is facilitated by the use of a special forceps, with an incomplete fenestrum at the end of each blade. The stitches are removed in eight days.

LARYNGOLOGY AND OTOTOLOGY.

(87) **Warfare Injuries of the Larynx.**
 From a consideration of the histories of 245 patients with gun-shot wounds of the larynx, Douglas Harmer (*Journ. of Laryng., Rhin., Otology*, January, 1919) observes that wounds of the larynx are infinitely rarer than injuries to the jaws; that the entry wound may be situated in any part of the neck (jaw and chest rare) and is generally smaller than the exit entry, that the commonest place of entry is the anterior triangle of the neck, especially in the region of the thyroid cartilage; that transverse wounds (61) are more common than oblique (24); that entry wounds in the middle line in front are very rare (8) and never occur posteriorly, doubtless because the spine is always involved with fatal results; that the track of the missile may be horizontal, from above downwards, or occasionally from below upwards; that the lower jaw may be struck first; that injuries of the larynx between the level of the vocal cords and the cricoid are the most serious; that tracheal wounds are rare (12); that the pharynx or oesophagus is often included; that extra-laryngeal wounds are very common on account of the mobility of the air passages, the missile often passing obliquely by the side of the thyroid cartilage or transversely behind the larynx without penetrating into its cavity. All varieties of wounds are met with. Bullets fired at close range are generally more destructive than after a long flight. The healing of wounds of the larynx is generally rapid and satisfactory. After the injury generally the voice is immediately lost, cough and dysphagia are, as a rule, transient. Dyspnoea is variable; it may develop suddenly at any period. Haemoptysis is common and may be severe and persist for days. The larynx must be very carefully examined for injuries. Wounds through the posterior part, involving the arytenoids and pharynx, are the most serious. The cartilage or cricoid may be fractured. In wounds of the cartilage some perichondritis generally supervenes and, if serious, may prove dangerous. The cords are frequently injured, especially anteriorly, where scarring may lead to the formation of a web. The frequency of paralysis of the vocal cords, generally abductor in type, immediately following gun-shot wounds of the larynx, is remarkable and is probably due to shock. No case of divided recurrent laryngeal nerve has been reported. Stenosis and webbing may result from inflammation or cicatrization and require tracheotomy and later laryngostomy, but generally the ultimate results are good. In two-thirds of patients with gun-shot injuries of the larynx who survive for more than a week, recovery is complete and no ill-effects are produced beyond alteration of the voice.

(88) Latent Sinusitis.

P. Watson-Williams (*Journ. Laryng., Rhin., Otology*, July, 1919) holds that a latent sinusitis may persist for many

years and that chronic rheumatoid arthritis and other infective rheumatic symptoms may arise from it. Appendicitis may also be due to infection through the gastro-intestinal tract from the same source. He maintains that when a virulent infecting organism is present in the affected sinus, a non-purulent nasal discharge is more likely to be associated with, and to be the essential cause of, a systemic infection than is a sinusitis with a profuse purulent discharge. The latter may be sterile, whereas a thin, opalescent or almost colourless discharge may yield a free growth of pyogenic organisms on culture. He suggests that some cases of systemic septic infection, attributed to tonsillar infection, may be due to a nasal sinusitis, which has caused tonsillar infection with hypertrophy of the tonsillar lymphatic structures.

(89) Chronic Otorrhoea.

Aeration of the middle ear is the secret of success, according to Hugh B. Blackwell (*New York Med. Journ.*, December 6, 1919). This is accomplished by (1) external aeration, removal of granulations in the form of polyp in the canal as a necessary preliminary, then instillation of alcohol, after cleansing, into the middle ear for granulations there, or, if the perforation in the drum permits, applications of silver nitrate. The canal must be kept dry at all times. If the discharge is profuse, boric acid irrigations with a rubber ball syringe, repeated as often as necessary, are indicated. When the discharge becomes scanty, it is best removed by a cotton applicator, and this may be done by the patient, after which boric acid powder is insufflated. Absorbent cotton-wool should not be worn in the meatus, except in the most severe weather. (2) Internal aeration: The Eustachian tube must be kept patent, and occasionally inflation of the tube practised. Any nasal obstruction present should be corrected and enlarged tonsils and adenoids removed.

(90) Physiology of the Eighth Nerves.

V. Cheval (*Revue de Laryngologie*, June 30, 1919) states that the rapid component of vestibular nystagmus is comparable to the tendon reflexes, as the nucleus of the trigeminal is connected with the nuclei of the third, fourth and sixth nerves and the contraction of one set of muscles produces a contraction of the antagonists. As the rapid contraction of the antagonists occurs always suddenly and the sensation of kinesthesia of the ocular muscles are transmitted by the trigeminal, it follows that the reflex of the rapid phase has a trigeminal origin. The afferent impulses from the extrinsic muscles of the eye presumably travel by the trigeminal. He found the injection of novocaine into both orbits of a rabbit caused disappearance of the rapid phase. Unilateral section of the trigeminal trunk sometimes suppressed it, while section of both trigeminals was invariably followed by disappearance of the rapid phase and onset of persistent conjugate deviation.

(91) The Effect of Floro-Vibrations on the Auditory Apparatus.

Experimenting with guinea-pigs, K. Wittmaack (*Arch. f. Ohren., Bd. cii., Heft 1-2, 1918*) found that in animals subjected to vibrations, conducted aerially, lesions of the auditory apparatus were markedly different from those in animals where the vibrations had passed through the body. In the former the whole organ of Corti, in its basal coils, may be destroyed and examination of animals killed after different periods of exposure to the vibrations seemed to indicate that the maximum lesions are brought about quickly and prolonged exposure to sounds of constant intensity does not necessarily produce greater lesions. In animals exposed for some time to vibrations through the body only, isolated nerve cells and fibres and the sense cells of the organ of Corti in its upper windings were found destroyed, while the supporting cells were intact. The lower windings were found absolutely normal.

(92) Primary Diphtheria of the Middle Ear.

Amédée Pugnat (*Rev. de Laryngol., d'Otol., et de Rhinol.*, August 15, 1919) states that the Eustachian tube is the usual portal of infection. In the absence of faecal diphtheria, the infection presumably comes from the nasal fossæ. A bulging in one quadrant of the drum has been noted, but paracentesis yields no fluid whatever. A false membrane has been seen covering the promontory. Intractable earache obtains, which is only dispelled by serum injection, which acts instantly. Facial paralysis and mastoiditis may complicate the case. Integrity of hearing is generally insured by an early serum injection; hence, the prognosis rests on an early diagnosis.

(93) Angiospasme Labyrinthique.

Cases resembling reversed Menière's syndrome, i.e., a progressive tinnitus, with increasing deafness, which becomes almost absolute, but which recovers after a sudden and violent attack of vertigo, has been several times observed by Marcel Leroyez (*Presse Méd.*, January 2, 1919). He thinks the train of symptoms may be due to a spasm of the vessels of the labyrinth analogous to the blindness due to a spasm of the ocular vessels. Owing to the transient nature of the symptoms, haemorrhage into the labyrinth is improbable. Vertigo corresponds to pain in the vestibular nerve; subjective noises represent pain in the auditory nerve and deafness indicates anaesthesia.

(94) Hearing Test for Malingeringers.

The blindfolded patient denies hearing the vibrating tuning fork by air-conduction. In the Weber test the sound is generally admitted as heard in the affected ear. The vibrating fork over the mastoid is also heard. The last test is repeated, but a pencil is pressed on the mastoid instead of the fork, which latter is held near the auricle, to test the air conduction. If heard, the patient is not deaf.—Frederick F. Teal (*Laryngoscope*, August, 1918).

British Medical Association News.

SCIENTIFIC.

A meeting of the Victorian Branch was held on February 4, 1920, at the Medical Society Hall, East Melbourne, Dr. John Gordon, the Vice-President, in the chair.

Dr. S. W. Patterson read a paper on "The Pathology of Influenza in France, as Investigated During War-Time" (see page 207).

Dr. S. V. Sewell, in opening the discussion, asked permission to convey his personal gratitude to Dr. Patterson for his excellent summary of the pathological picture and aetiological factors of a very puzzling disease. He expressed the hope that the treatment of influenza would quickly improve as the knowledge of its bacterial causation advanced. After all, so little was known and all treatment in the past had been tentative. Were they still to stand by and treat this disease expectantly, or attempt to use the knowledge so far gathered regarding the processes of immunity? He (Dr. Sewell), after looking back over a considerable experience of the use of specific sera in the treatment of croupous pneumonia, could not but feel that the outlook for immunotherapy in influenza was promising. Certainly his own results with croupous pneumonia had improved greatly since he had adopted the systematic use of anti-pneumococcal serum. The immediate neutralization of circulating toxins by the early introduction of the appropriate anti-serum led to such improvement that the patient thereby gained opportunity to rally and to develop his own protective substances.

The use of sensitized vaccines was based on similar considerations. These vaccines were very much less toxic than ordinary, non-sensitized vaccines, as in their preparation the exotoxins of the component organisms were neutralized by incubation with the corresponding anti-sera. Sensitized vaccines could, therefore, be given in much larger doses than obtained for the non-sensitized preparations and thus a more rapid effect in improving the patient's active immunity could be compassed.

Dr. Sewell inquired of Dr. Patterson whether the observations on the rise in phagocytic power from the twelfth day onwards, to which he had referred, had been correlated with estimations of the opsonic indices and whether Dr. Patterson had any data bearing on the duration of the acquired immunity.

He, the speaker, regarded the second as a very important point. Clinical evidence showed that the immunity conferred by an attack of influenza was very short-lived. In his endeavours to carry out specific therapy he had made use of the serum of convalescents from influenza. Fifteen very serious cases had been so treated and the difficulties that had confronted him were to know when it was safe to take the blood and how long the serum of a convalescent might be expected to be efficacious. He had employed direct transfusion of 100 c.c.m. of citrated blood. The fifteen cases to which he had referred, were all of a very grave, even desperate, nature. Five of the patients died and ten recovered. Whether the results in this short series would have been different in the absence of the special treatment he had described, it was, of course, impossible to say, but he had been impressed by the work of two observers, Malley and Hartman, in America, as he had read it in *The Medical Journal of Australia* (April 12, 1919, p. 306), epitomized from the *Journal of the American Medical Association*. These authors had dealt with a series of 46 cases of influenza, all of a serious nature and accompanied by broncho-pneumonia. Mixed sera from convalescents, taken in all instances on the tenth day after the temperature reached normal, had been used and quantities of 100 c.c.m. to 250 c.c.m. given by intravenous injection. In view of the fact that all of the cases were broncho-pneumonic, it must be allowed that the death-rate of 6.4% was extremely good.

Dr. Sewell suggested that Dr. Patterson might determine for them, in the epidemic which, unfortunately, all were anticipating, the points relating to the best time to take the serum and the period of its effectiveness.

Continuing, Dr. Sewell remarked that, whereas mixed and secondary infections no doubt accounted for a large proportion of the deaths in influenza, it seemed very probable that those dramatic, ultra-catastrophic types were attribu-

table to the unassisted energies of the filterable virus (if it be accepted), or, as Dr. Patterson's graph would seem to indicate, the *B. influenzae*. The question arose of necessary modifications in specific treatment for the more prolonged cases. At this point he would like to emphasize the supreme importance of well-organized hospital treatment, with adequate laboratory equipment. Only thus could the dominating organisms be determined and the indications gained for proper specific therapy. Dr. Sewell again urged the more extended use of knowledge of immune therapy and its application to the mixed infections under discussion.

In the course of some remarks on the more serious symptoms occurring in influenza, Dr. Sewell drew attention to the extreme vasomotor failure so frequently observed. He emphasized the fact that the use of pressor drugs, such as ergot and pituitary extract, not only did no good, but often led to disaster. A study of post-mortem findings and the information conveyed to them by Dr. Patterson in his paper, made clear the reason for the low blood pressure and the lack of response to such drugs as he had mentioned. The heart muscle was simply unable to respond and the patients bled into their capillaries.

The cardinal point in the treatment of influenza, above all other diseases, was rest. He had charge of patients who, he was convinced, should not even be sponged, and he knew of no disease in which there was such a general "knock-out" of the muscular system, both voluntary and involuntary. Very restless patients were often those who eventually collapsed badly. He would place absolute rest as of equal importance with immune therapy. Digitalis was as useless as pituitary extract, but he did think that alcohol was of great value, firstly, because of the euthanasia it induced and, secondly, because it was a readily available food sparer and diffusible stimulant. He allowed his patients as much as 120 c.c.m. to 160 c.c.m. per day of alcohol.

In conclusion, Dr. Sewell commented upon the value of prophylactic inoculation. He considered it a wise procedure, but in view of the short immunity conferred by coryzal infections generally, the indication was to give repeated doses of the prophylactic vaccine, e.g., every two or three weeks during the progress of the epidemic. A measure of protection against the complicating infections might thus be obtained.

The war had provided a unique opportunity for the investigation of this and other diseases. Many of the ablest men of the medical profession, freed from their practices, had been enabled to come to grips with disease under conditions such as could not obtain in civil life. He tendered his thanks to Dr. Patterson for his very interesting paper and hoped that it would be the forerunner of many others.

Dr. Alan F. Jolley stated his experience on the homeward voyage of the transport. They left London with about 2,300 men on board and in the depth of winter. After 24 hours at sea a case of influenza was reported. The troops in the forward part of the ship, where the case occurred, were promptly quarantined under as rigid conditions as possible. On the second, third and fourth days there were eight, eight and twenty-seven fresh cases respectively. Up to the fourth day, all the cases were limited to the troops occupying the quarantined area, but on this day a case occurred in the after part of the ship. All the affected individuals had been treated in the inhalatorium, where they received the zinc sulphate spray. On the fourth day the inhalatorium was discarded and all the men were required to inhale eucalyptus in the proportion of 12.5 c.c.m. eucalyptus to 100 c.c.m. of water, which was sprinkled on their handkerchiefs, the handkerchiefs being tied over their mouth and nose in the form of a mask. The fifth day saw a fall in the number of fresh cases to fourteen and the next day the number was eight. On this day supplies of eucalyptus were exhausted and the following day the number of men reporting sick with influenza rose to eighteen. Stocks of eucalyptus were replenished at Malta. The daily admissions promptly fell and at the end of three days were three and remained at about this level until the end of the voyage, with the exception of one day before reaching Fremantle, when the supply of eucalyptus again gave out and the figures rose.

During the latter part of the voyage patients were questioned as to the use of the inhaler and it was found that 70% of those admitted had failed to carry this out, while the remaining 30% had carried out their instructions care-

fully. In the first week of the voyage there were 93 cases of influenza, with, roughly, 30% pneumonia, and in the eleven days from Suez to Colombo there were 41 cases, with 19% pneumonia. After the vessel left Colombo, there were no further instances of pneumonia and the cases of influenza were very mild in type. Inquiries were also instigated as to the number who had undergone prophylactic inoculation. Of the men interrogated, thirty were found who had been inoculated two to three months previously. Two of these patients died. These were the only two deaths on the voyage.

Dr. Jolley further stated that he and his fellow-officers soon came to recognize that patients kept in the open air did well; they were also fully impressed with the paramount importance of rest. It was worthy of note that the patients with pneumonia stated that they had felt "off colour" for a day or two before reporting sick. If there was one factor more than any other contributing to their low death-rate, he considered that it was the insistence of complete rest and the avoidance of all unnecessary movement of the patient.

Dr. A. E. Taylor, in a résumé of his experience of influenza in Mesopotamia, said that, among a variety of methods of treatment, including cinnamon, salicylate of soda and various hypodermic drugs, they had given vaccines a particularly good trial. The vaccine used was supplied by the Army authorities. Although he had seen it used so extensively, he found it difficult to pronounce definitely as to its utility. He had also seen alcohol given very generously; his general impression, although he had no figures, was that very definite benefit followed from the use of alcohol in influenza.

Dr. R. R. Stawell extended a cordial welcome to Dr. Patterson and remarked that the profession in Melbourne could congratulate themselves that Dr. Patterson was again among them as an active fellow-worker.

Dr. Patterson's paper had been extremely interesting and suggestive from a therapeutic point of view and had conveyed to them a precise conception of the various organisms prevailing in the early and late stage of influenza. On the question of the importance of these data and their application in specific therapy, he was in agreement with Dr. Sewell.

From the beginning he had been greatly impressed by the collapse and so-called toxæmia which so frequently dominated the scene in clinical experience of influenza. It was so unlike any other acute illness in this respect and the lassitude, cold extremities, small, high pulse and low blood pressure resembled surgical shock to a remarkable degree. While still reflecting on these manifestations, the generally accepted basis for which was "vaso-constriction," he became acquainted with the first report of the Commission appointed by the Medical Research Committee to investigate surgical shock. In this illuminating research, Professor Bayliss had shown that, in surgical shock, there obtained, actually, a condition of vaso-dilatation, yet the blood pressure was low—very low—and this was associated with a comparatively high corpuscular count, as if the plasma had exuded from the vessels. The old view that in surgical shock the patient virtually bled into his splanchnics, which shared in the general vaso-dilatation, was discredited by the observations of surgeons in the casualty clearing stations, who, from direct observation in cases of profound shock, could not substantiate the formerly accepted conception. In actual fact, the splanchnic vessels were found not have suffered dilatation. A more accurate idea of the underlying phenomena in shock would be attained if the patient were regarded as having bled into his capillaries. The combination of factors operating comprised constriction of arterioles, spoiling and dilatation of capillaries, consequent incomplete filling of the veins and poor diastolic filling of the heart.

The report to which he had referred proceeded to show, by the work of Dale, that histamine, administered experimentally to animals, had the effect of producing this exact condition of "shock." Histamine was formed and liberated wherever body cells were undergoing rapid destruction and necrosis, whether it be in a torn and shattered limb, or in the tissues generally, as the result of the invasion of the body by a potent virus, such as that of influenza. In the former instance, rest to the damaged limb, and in the latter, rest for the body generally, was essential to diminish wear and tear and absorption of toxic products. Rest in bed was therefore not an old wives' story, but was fundamental in

the rational treatment of a disease characterized by such exhaustion as influenza. It was important that they should not allow their ideas to become clouded by the use of vague terms, such as "toxæmia." The conception of Bayliss and Dale, even if subsequent work required it to be modified, was very good in its immediate practical application.

Dr. Stawell pointed out that the foregoing interpretation of the clinical picture of exhaustion, typically observed in severe cases of influenza, offered a complete explanation of the failure of the vaso-constrictor drugs, a fact that had been emphasized by Dr. Sewell and that was completely in accord with his own experience.

What was to be done in the presence of this profoundly shocked condition and myocardial spoiling? Personally, he was strongly in favour of alcohol. Next to it in efficiency he would place camphor; ernutin and pituitrin had failed him.

In some observations on specific therapy, Dr. Stawell said that he regarded anti-pneumococcal serum as of great value, but he thought that vaccines ought to be limited to local conditions, unaccompanied by general toxic effects.

The anti-sera for diphtheria, dysentery, tetanus and cerebro-spinal meningitis were all of established efficiency. He was very favourably impressed by the results attendant on the early use of large doses of anti-pneumococcal serum. He had been greatly interested in Dr. Sewell's remarks on the use of sera from convalescents, and fully appreciated the importance of determining the optimum period for the withdrawal of the blood.

A meeting of the Queensland Branch was held at the B.M.A. Rooms, Adelaide Street, Brisbane, on February 6, 1920, Sir David Hardie, the President, in the chair.

The President welcomed Lieutenant-Colonel E. Culpin, Major E. S. Meyers, Captain C. M. Lilley, Captain V. N. B. Willis, Captain N. G. Sutton and Captain J. G. Avery on their return from active service abroad.

Dr. G. P. Dixon read the notes of a case of congenital dislocation of the upper end of both radii.

The patient was 14 years of age and was the first-born of three children. He was a full-time child. The family history did not contain any record bearing on the case. The mother first noticed bony prominences behind both elbows when the child was four years of age. The movements were apparently not impaired and the deformity caused no trouble. The projections had increased steadily in size during the following ten years. Both the radii were dislocated backwards; their heads were covered only by skin and superficial fascia. All the movements of the elbow joint and of the superior radio-ulnar articulation were good. The radii were about 5 cm. longer than the ulnae. Dr. Dixon pointed out several peculiar points concerning the child. He was of short stature. He had small, chubby hands, with thick, short fingers. The skin of the hands was thick and wrinkled. The feet had a similar appearance. The hair was lank and dry looking. The right iris was grey and the left iris was brown. These signs suggested a mild form of cretinism, but the boy was of average intelligence and was in the upper fourth class at school. Dr. Dixon asked his colleagues for suggestions as to the best form of treatment. The patient stated that his only trouble was soreness over the upper ends of the radii, due to slight trauma. He thought that it would be advisable to excise the upper ends of the radii down to the level of the radio-ulnar articulations. He thanked Dr. Mavis Grant, of the Children's Hospital, for the notes of the case. A skiagram of the arms was displayed.

Dr. Dixon also presented a patient in whom he had performed thoraco-plasty and decortication of the lung for chronic empyema. The patient was a private in the Australian Imperial Force. He had received a shell wound in the right side of the chest in June, 1917, at Messines. An operation had been performed three days later, when 1.2 litres of offensive pus had been aspirated. A drainage tube had been inserted. The wound healed in England and the patient had been sent back to Australia. The scar had broken down. He was then admitted to the No. 6 Australian General Hospital on March 15, 1918. The empyema was drained. In February, 1919, there was still a large cavity in the chest. Röntgenological examination revealed a foreign body, 3.75 cm. in length, lying in front of the body of the tenth dorsal vertebra. In March, 1919, 5 cm.

of the posterior end of the tenth rib on the right side were resected and the foreign body was removed. The discharge from the pleural cavity persisted and in September, 1919, the cavity was filled with bismuth emulsion and examined by means of X-rays. A long sinus was seen leading into an extensive cavity, which reached the apex of the pleural cavity.

In October the patient was anaesthetized with ether and an incision was made from the opening of the sinus over the tenth rib upwards and forwards to the lower margin of the *pectoralis major* muscle in front of the anterior axillary line. Part of the *latissimus dorsi* muscle was divided and portion of the *serratus magnus*. To gain more room, a short incision was carried forward from near the upper end of the vertical incision. The scapula was pulled backwards and the pectoral muscles retracted upwards. Portions of the fourth to the tenth ribs were excised subperiosteally. About 20 cm. of the sixth and seventh ribs were excised over the greatest diameter of the cavity and smaller portions of ribs, both above and below. The sinus was dissected out and the whole of the outer wall of the cavity cut away. There was not much hemorrhage. The parietal pleura was dense and very thick. In one part it measured over 2.5 cm. A tense, tough membrane was seen stretching across the whole floor of the cavity, binding down the lung. A nick was made in the membrane and the lung tissue immediately bulged through the opening. The whole of the membrane was therefore dissected off the lung, with the exception of a small portion at the extreme apex, where access was difficult and where bleeding tended to become severe. The lung expanded well. A tube was inserted into the apex of the pleural cavity and brought out at the upper end of the skin wound. Another drain was inserted at the base.

The muscles were sutured with catgut and the skin incisions were closed. There was no shock. Healing was uneventful. The lung had expanded well and the deformity of the chest was not nearly as marked as it had been. There was no definite impairment of movement of the arm. Dr. Dixon pointed out that persistent empyema was not uncommon among returned soldiers. He recorded his indebtedness to Captain Leckie, of the No. 17 Australian General Hospital, for the notes of the case and for the interest he took in the patient while under his care.

Dr. Dixon also showed two patients with musculo-spiral paralysis due to gun shot wounds. One of these cases had been treated by suture of the nerve about eleven months previously. In the other case a transplantation of tendons had been carried out. The tendon of the *flexor carpi radialis* had been inserted into the extensors of the thumb and index finger. The tendon of the *flexor carpi ulnaris* had been transplanted into the extensor tendons of the middle, ring and little fingers. An attempt had been made to preserve the mesotenons and peritenons as far as possible. The transplantation was carried out in July, 1919. In both cases the results were encouraging. Extension of the wrist and fingers was good, but abduction of the thumb in both was defective. This power, however, was improving. Both patients stated that they could use their hands freely and that they found them useful.

Dr. D. A. Cameron thanked Dr. Dixon for bringing his cases to the notice of the meeting. He thought that excision of the heads of the radii was the only treatment of value in the first case. He congratulated him on the results obtained in the other cases. He made some remarks on the use of catgut as suture material.

Dr. R. Graham Brown exhibited a boy with mastoiditis and facial paralysis. The paralysis cleared up three months after operation. He also showed a woman with cerebral abscess (see page 212).

Dr. E. A. Falkner read a paper on medical education (see page 210).

Dr. A. J. Turner thanked Dr. Falkner for his interesting paper. He considered that it was necessary to relinquish a great deal of the existing curriculum. The year spent in the study of the preliminary science was still needed, as school education was insufficient in this connexion. A good training in physics was essential, especially in electricity. Chemistry for medical students should be specialized. The course in zoology was not practical. More attention should be given to amoebae and parasites. Systematic lectures in

botany should be discontinued or reduced very considerably. All the preliminary subjects should be taught purely from a medical point of view. There were too many systematic lectures. He was doubtful whether full-time professors would be advisable for a small centre like Brisbane, as it would be necessary to offer a large salary to a man of established reputation.

Dr. Andrew Stewart considered that the first professional examination should be abolished. He held that the teaching of obstetrics was more thorough for midwives than for medical students. It was important that the senior men should teach in the out-patient departments, as it was only there that the early symptoms of disease were to be seen.

Dr. A. Graham Butler said that the present aim of medical education was directed too much on the individual and too little on preventive medicine for the whole community. The science of medicine should come before the art. The essentials and not the externals should be taught.

Dr. A. H. Marks considered that a sub-committee should be appointed to collect information from other universities and draw up a scheme to suit local conditions.

Dr. D. Gifford Croll thought that systematic lectures were of little use, except for examination purposes. Too much elaborate and expensive apparatus was used in teaching. It was inadvisable to curtail general education prior to the beginning of a medical course, as it was hard to make it up later. Clinical pathology was of little use as taught at present. He considered special subjects might be left for post-graduate study.

Dr. F. Howson wished to abolish systematic lectures. He would substitute demonstration lectures in the early years and later on purely clinical lectures. The professorial appointment should be for a definite period and should carry a pension.

Dr. G. P. Dixon pleaded for the science part of the course, especially for good teaching along the lines of scientific thought and investigation.

Dr. E. Culpin referred to the importance of an adequate training in preventive medicine and instanced the conditions of houses and streets in Brisbane. He agreed with Dr. Marks regarding the appointment of a sub-committee.

Dr. F. G. Power considered that if the first year examination was removed the onus of the teaching of elementary sciences would be thrown on the secondary schools, higher standards would be required, and, except in the large centres, this would practically be impossible in a scattered State like Queensland. He considered a pension system for professors would entail a big financial problem.

Dr. R. Marshall Allan drew attention to the work of the committee on obstetric teaching in London. There was great need for radical changes in the methods of teaching obstetrics. Full-time teaching appointments were coming into vogue in London. He instanced the Rotunda Hospital as an example of attracting good men for a limited term. At Edinburgh the senior members of the staff were teaching in the out-patient department.

Dr. R. Graham Brown thought that the medical profession would have to bear the responsibility of determining whether the new school should be clinical or academical. There was a general trend to the clinical side. The London schools were giving full-time clinical teaching in conjunction with systematic work from the beginning. He advocated the formation of a sub-committee without further delay.

The President, in returning thanks to Dr. Falkner, stated that we would have to guide those who would be responsible for the formation of the new school. He pleaded for greater co-operation and co-ordination between lectures and departments. At present a medical education was divided into a number of water-tight compartments. As regards physics, he would advocate very preliminary teaching in the first year and more advanced work later on, when lectures on eye, ear, nose and throat were being held. The same method should apply in the teaching of anatomy, especially the anatomy of the female pelvis and the central nervous system, which should only be dealt with when the lectures on these subjects are being given. The course could only be altered (a) by cutting out the first year, (b) by adding an extra year. He considered a five years' course was quite long enough. The secondary schools were quite capable of teaching the subjects of the first year.

Dr. E. A. Falkner thanked the members for their attendance and the interesting discussion on his paper. They should aim at a better school than those of the past and get out of the groove of vested interests and old traditions.

He moved that the Council be instructed to appoint a sub-committee of three, representing the English, Scottish and colonial schools, to go into the question of the medical curriculum for the proposed medical school and to draw up a report, to be submitted to the Branch.

The motion was seconded by Dr. A. H Marks and was carried unanimously.

MEDICO-POLITICAL.

A conference was held at the suggestion of the Premier, the Honourable H. S. W. Lawson, on February 11, 1920, by the members of the Organization Committee of the Victorian Branch of the British Medical Association and delegates of the Australian Natives' Association, of the United Ancient Order of Druids and the Independent Order of Rechabites. The following conditions of a settlement of the dispute were provisionally accepted, subject to ratification:—

1. Acceptance and recognition of the terms of the Wasley award.
2. The exercise of freedom of choice to members of the friendly societies named above selecting their doctors.
3. No victimization or undue influence to be exercised by either parties to the present dispute.
4. No interference with the staffs or conduct of present established institutes.
5. An undertaking by the friendly societies named above that the respective governing bodies will submit to their annual conferences (with a strong recommendation for adoption) a rule prohibiting any Branch or body of members taking part in the establishment of a new institute for four years.
6. The governing bodies of the various orders will obtain control of all medical arrangements of individual lodges. (The Australian Natives' Association and the Independent Order of Rechabites have taken the necessary steps and secured control. The United Ancient Order of Druids will submit alteration of rules at next annual meeting.)
7. That all arrangements with medical officers shall be made with these governing bodies.
8. Machinery will be devised to enable the societies to carry out their promise of free choice of doctors.
9. There be appointed a committee representing the Victorian Branch of the British Medical Association and the order or orders for the purpose of carrying out the terms of the agreement and to interpret the meaning of any clause or condition contained therein.

These conditions have been submitted to a meeting of the Branch.

A meeting of the Executive Committee of the Friendly Societies' Dispensary was held on February 25, 1920. At this meeting the various proposals were considered and it was determined that, unless a definite undertaking were obtained from the Victorian Branch that the members of the Branch would not be prevented from applying for positions in connexion with the medical institutes, it would be necessary to obtain doctors elsewhere than in Victoria.

The undermentioned have been nominated for election as members of the New South Wales Branch:—

- Denis Joseph Glissan, Esq., M.B., 1911 (Univ. Sydney),
No. 2 Gloucester Flats, Forbes Street, Darlinghurst.
Henry Harold Crowe, Esq., M.B., Ch.M., 1918 (Univ. Sydney); Burda Park, May's Hill, Parramatta.
John George Morris Beale, Esq., M.B., 1916, Ch.M., 1918 (Univ. Sydney), 85 Greenhill Street, Croydon.
Miss Enid Robertson, M.B., 1919 (Univ. Sydney), 185 Military Road, Neutral Bay.

INSANITY IN VICTORIA.

The Inspector-General of the Insane in Victoria has issued his annual report for the year 1918. In his letter of pre-

sentation he points out that the number of persons admitted to the hospitals for the insane was exactly the same as in the year 1917. The total number of persons registered as insane numbered 6,000, exclusive of 54 uncertified voluntary boarders and 110 returned soldiers suffering from mental disorders. The total number of those registered was 66 more than in 1917. Dr. Ernest Jones has asked for additional accommodation for female patients. There is apparently considerable overcrowding in the hospitals. Dr. Ernest Jones states that the hospitals contain 400 more patients than have been provided for. Additional wards could be erected at Mont Park and Ballarat, but he considers it desirable that accommodation should be provided in Gippsland. He makes reference to the need for a proper revision of the salaries and wages paid in the Lunacy Service. He states quite frankly that the initial rates of pay are too low to attract the right type of applicant.

Statistical.

The following information is culled from the statistical tables published in the report. Of the 6,000 persons under certification, 5,199 were housed in nine hospitals for the insane, 593 had been released on trial leave, 123 had been boarded out, 72 had been housed in five licensed houses and 32 were on trial leave from the houses. The number of females certified was 3,097 and of males 2,903.

During the course of the year 762 persons were admitted to the hospitals for the insane. Of these, 661 were admitted for the first time. The number of patients discharged was 290. This number includes 155 who were said to have recovered, 127 who were said to have been relieved and eight (including those transferred to licensed houses) who were not improved. The number of patients who died was 390. This represents 7.52% of the average number of patients in the hospitals. The lowest death-rate during the past 28 years was 6.47% in 1906, while the highest was 9.07% in 1896. The mean works out at 7.95%. Of the patients admitted, 148 had had one or more previous attacks of insanity. The fact should be taken in association with the statement that 101 of the patients had previously been admitted to a hospital for the insane or licensed house. The number of patients who escaped was 30. The same number of escapees were re-captured. The recovery rate, an illogical term, was 20.34%. By this is meant that, for every hundred persons admitted during the year to the hospitals, 20.34 were found to be free from evidence of insanity when discharged. It is probable that a wide divergence of opinion exists in regard to the evidence required by different psychiatrists justifying the determination of recovery. The recovery rate for 1918 was the lowest since 1891. The highest rate recorded was 44.97% in 1902. It has to be recognized, however, that no comparison can stand in the absence of any correction based on the frequency of relapse and in the absence of any definite standard of recovery.

A table full of instructive details is published, giving the number of patients arranged in quinquennial periods and divided into groups of admitted, discharged recovered, discharge relieved, discharged not improved, escape not re-taken, died, and remaining in hospital at the end of the year. The mean age of those admitted to the hospitals for the insane was 43.69 years and to the idiot asylum 11.61 years. The mean age of the patients who were discharged under the rubric of recovered, was 40.41 years. Six of these patients were between the ages of 15 and 20 and the oldest patients in the group were between 75 and 80. The average age at discharge of those relieved was somewhat higher than that of the last category. It was 43.78 years. The mean age of the children discharged "relieved" from the idiot asylum was 14.82 years. It is scarcely justifiable to quote the mean age at the time of discharge of those labelled "not improved," because their total number was but eight; the youngest was between five and ten years and the oldest between 60 and 65 years. The age at death of the patients in the hospitals for the insane average 55.89 years and of the patients in the idiot asylum 18.46 years. It would be helpful if the deaths at each age-period were expressed as a percentage of the total number of patients for the same age periods. From the figures published, it appears that, while the average age of the patients at death was just under 56 years, the frequency of death among the patients between 25 and 30 was practically the same as that of patients between the ages of 55

and 60, or between five and ten years. The mortality was necessarily high among the aged, while it was surprisingly high among the very young, two children under five years of age having died out of a total of 13.

In the next table are set forth the probable causes of the mental affections in the patients admitted during the year. The figures relating to the so-called "moral causes" are interesting, but not very convincing. The vast majority of these alleged causes are classified under the heading "exciting cause." By this we understand that it is assumed that conditions, such as mental anxiety and worry, domestic trouble, religious excitement or love affairs, affecting persons with unstable minds or otherwise predisposed to mental disease, determines the outbreak of an attack. The physical causes are more readily understood and their recognition is of greater importance from the point of view of prophylaxis. From the table we learn that congenital defects were present in 104 patients, while in 103 heredity was an important factor. We would wish to strike out of the list "previous attacks" with the numeral 82 attached, as this is but a clumsy method of admitting that the cause was unknown. The same criticism applies to the entry "old age." The next alleged cause in order of frequency is somewhat indefinite. It reads "other bodily diseases or disorders, e.g., toxic." This may cover a multitude of diverse conditions. Venereal disease appears in the table 50 times. That is to say that 6.5% of the patients admitted were found to be suffering or to have suffered from venereal disease. Intemperance in drink was regarded as a cause in 46 cases, in 45 of which it is classified as an exciting cause. Parturition, the puerperal state and lactation appear 26 times in the table, while the change of life appears 27 times. It must be admitted that, with the exception of congenital defect, venereal disease, alcoholism and hereditary influences, the actual causes of insanity remain very obscure.

The information concerning the form of disease and the cause of death does not differ materially from that obtaining for previous years.

State Institutions.

In dealing with the individual State institutions for the insane, Dr. Ernest Jones points out that the ratio of freshly occurring insanity is apparently decreasing. He mentions that the increasing number of voluntary boarders in hospitals and elsewhere and the care of military patients without certification may account for some of this decrease. He finds that the amount of insanity arising from the war is surprisingly small.

Turning to the frequency of general paralysis of the insane, he states that this disease was diagnosed 45 times among the patients on admission. In 1911 there were 88 cases and since that year there has been a steady decrease in the numbers. General paralysis was the cause of death in 12.8% of the fatal cases.

Of the patients boarded out, 13 were placed with private individuals and the remaining 110 were distributed among three benevolent asylums at Ballarat, Castlemaine and Bendigo. The rates paid for these patients have been increased to meet the higher cost of living. The number boarded out was somewhat smaller than in 1917. Ten of the boarded-out patients died during the year. The deaths are included in the statistics of the hospitals for the insane from which the patients were sent. The average number of patients in the several hospitals is as follows: At the Yarra Bend Hospital for the Insane the average number of patients resident during the year 1918 was 716; at the Kew Hospital for the Insane the average number was 883 and at the Children's Cottages, Kew, 329; at Ararat the average number was 640; at Beechworth it was 636; at Sunbury it was 972; at Mont Park it was 278; at Ballarat, including the Reception House, it was 606 and at Royal Park, including the Receiving House, it was 181.

On January 1, 1918, there were 52 inmates in the wards attached to the receiving houses. During the course of the year 785 patients were admitted and, in addition, four patients who had escaped from one or other hospital and had been retaken, were admitted. Of this number, 721 patients were admitted for the first time. At the end of the year there were 60 patients in the wards. Of the remainder, 538 had been transferred to the hospitals for the insane, 224 were discharged, including 199 who are entered under the rubric "recovered," while 15 died.

The number of licensed houses is six. In these houses there were 71 patients on the first day of the year, in addition to 15 who were on trial leave. The number of admissions was 38. During the whole year 136 patients were under care. Of these patients, 48 were discharged and seven died. The number of patients who were regarded as recovered on discharge was 14. In addition to the certified patients, there were eight voluntary boarders.

The total number of voluntary boarders under care in the State institutions and licensed houses was 197, including 163 fresh admissions during the year. One patient died and 142 patients were discharged. Of the 142 patients discharged, 112 left the institutions and 30 were certified as insane or apparently insane and were committed to a hospital or licensed house.

Pathological Studies.

Dr. W. A. T. Lind appends a special report from the Pathological Laboratory at Royal Park. He conducted *post mortem* examinations of the bodies of 173 patients who had died in the State institutions. He claims that there was evidence of a syphilitic infection in 67% of the epileptic patients and in 83% of the idiot epileptics. The frequency of syphilitic changes in the bodies of victims of congenital insanity was found to be 65%, while in a further 7% there were signs "suspicious" of syphilis. In 36 out of 40 persons with *dementia praecox*, syphilitic changes were present.

Dr. Lind has met with two cases of the condition known as *epiloia*, or hypertrophic sclerosis of the cerebral cortex. A description of these cases will be found in the *Proceedings of the Australasian Medical Congress*, Auckland, 1914, pages 736-746.

Psychiatric Clinics.

Dr. Ernest Jones concludes his report in accordance with his established practice, by directing some words of sound advice to the Government of Victoria. The first subject dealt with is that of the establishment of psychiatric clinics in association with existing hospitals. He seeks support for his demands from the report of the special committee of the Medico-Psychological Association of Great Britain and Ireland appointed to consider the question of the treatment of mental disorder in its early stages. The arguments set forth include the contention that there are few facilities for the provision of skilled treatment before the patient is certified as insane. The objection raised by the relatives to certification results in a further delay in the institution of efficient treatment. The average general practitioner has little or no knowledge of the manifestations and treatment of mental disorders in their earliest stages. The committee have recommended the adoption of the system of voluntary boarders in all institutions for the admission of the insane. They also recommend the establishment of psychiatric clinics, where patients could be placed under skilled control, without being detained by compulsion and without any certification. A recognition of the advantages to the patients would lead to the admission of patients at an early stage and, at the same time, medical students and practitioners would have an opportunity of studying these cases and the measures adopted in their treatment. Dr. Ernest Jones appeals for a collaboration between the Lunacy Department and the general and teaching hospitals for the purpose of providing in- and out-patient accommodation for patients suffering from mild psychiatric disturbances and incipient insanity.

The other matters touched on in the report are the necessity of restoring the medical and nursing staffs to their proper strength, the adjustment of the hospitals to civil conditions, the extension of the institutions to cope with the demands and the revision of the scale of salaries and wages of the officers of the Lunacy service.

MEDICAL INSPECTION OF SCHOOL CHILDREN IN QUEENSLAND.

In the annual report of the Secretary for Public Instruction of Queensland for the year 1918 a chapter is devoted to the subject of the physical welfare of the school children. Owing to the fact that the Chief Medical Inspector, Dr. Eleanor Bourne, had been on war service since March, 1916, and had not returned by the end of 1918 and to the fact that the Assistant Medical Inspector, the late Dr. Elizabeth Sweet, was also on war service and resigned her connexion

with the Department, no special reports on the subject of medical inspection are issued. The work of medical inspection is carried out at present by thirteen part-time officers, of whom three are resident in Brisbane. It is stated that 18,200 children were examined during the course of the year and that physical defects were discovered in 3,183. No further information is given.

Since the death of Dr. Douglas Rodger in August, 1914, the ophthalmic inspection of school children in the western districts has been carried out at 34 country hospital centres by the local practitioners. In 52 schools, where the services of medical officers were not available, the head teachers were supplied with ophthalmic outfits and were required to adopt "simple preventive and curative measures and thus minimize the danger of infection." No details concerning the incidence of trachoma among the school children is published, nor is there any description of the measures adopted to prevent or cure this condition. It is stated that "the total effect of past efforts made under departmental direction has had a marked effect in reducing the amount of eye trouble in blight-affected districts." The public has a right to accurate information concerning the steps taken to improve the health of the school population. The Queensland Government must face the problem of instituting a sufficiently extensive and properly equipped medical service and of finding the necessary money for the campaign.

The contents of the paragraph dealing with epidemic diseases does not inspire confidence. The Department of Public Instruction relies on the Department of Public Health for all measures aiming at the control of epidemic diseases and even hands over the responsibility for the closure of schools, the disinfection of school buildings and other procedures. The school nurses have been deputed to render assistance in discovering cases of diphtheritic infection. It is not stated whether the nurses carry out this bacteriological manipulation under the direction of a medical officer.

An essential defect in the general scheme is contained in the provision for the maintenance of hygienic conditions. Instead of requiring the medical inspectors to examine and report on the hygienic conditions of the school to the Department, the responsibility is vested in the head teachers. A lay inspector of school cleaning supervises the work done by the school cleaners in the larger metropolitan and suburban schools.

The final section of the chapter on the welfare of school children deals with the question of physical training. The majority of the teachers hold the Commonwealth Defence Department certificate of competency to conduct physical training. It is stated that a marked improvement in the physique and carriage of the children has been effected by these means. Swimming is encouraged in the schools. In the year 1918 there were 44 swimming clubs for boys and 43 for girls, with a total membership of approximately 7,500 children. A large number of children were taught to swim during the year and over 500 were instructed in life saving.

Correspondence.

PAPULAR RASHES IN CHILDREN. DUE TO THE VERMIN PECULIAR TO STARLINGS AND OTHER BIRDS.

Sir: On reading the very interesting article of Dr. Cleland's in your issue of February 21 on the subject of rashes caused by the hairlets of the caterpillars of the moth, I am prompted to give the following personal experience.

During the last week in November, 1919, two children, aged seven and two respectively, living in North Sydney, suddenly developed tiny papules about the upper abdomen, chest, neck and limbs, involving considerable irritation, with resulting scratching, causing some to bleed and later to form scabs. There was present also much itching of the scalp. After twenty-four hours the irritation and slight inflammation around each papule disappeared, but fresh eruptions had arisen.

All the adult occupants of the house complained of general itchiness of the body, neck and scalp. In the scalp it was most marked and peculiarly definite in the hair immediately above the nape of the neck. One adult only developed a few spots on chest and neck, which were not very definite.

A few days later on, picking up a book in one of the rooms of the house, there were noticed hundreds of tiny insects,

smaller than a pin's head, running up the hands and arms, and on further investigation they were found generally through the room, especially in loose papers and books. They would escape observation on account of their small size, unless especially looked for. They were further seen in great numbers on an open window sill, and it was discovered they were the vermin peculiar to starlings and sparrows.

Starlings' nests were then discovered under the eaves of the roof, and in their nests the same vermin were found in great numbers. The nests were empty and it would appear that the vermin entered the house on the departure of the starlings after hatching out their young. The vermin were not discovered in the clothing. An occasional one would, however, be seen on the side of the neck or face, after being felt running over the skin.

It is well known, of course, that such vermin, unchecked, will invade a house and make habitation impossible. The vermin were soon got rid of after the destruction of the nests.

The question is of interest inasmuch as the causation of certain irritating rashes in children is often very difficult to determine.

Yours, etc.,

W. N. HORSFALL, M.B. et B.S. (Melb.).

North Sydney. (Undated.)

FRIENDLY SOCIETIES AND POLITICS.

Sir: In the issue of February 21, in a leading article on "The Objective of the Friendly Societies," a statement is made to which, as an officer of a friendly society in New South Wales, I take very great objection, as calculated to very seriously misrepresent the objects of friendly societies, and in so doing create a strong and unwarrantable prejudice in the minds of the members of the British Medical Association. The statement complained of occurs in the second paragraph, as follows:—

"The fact that the majority of the members are not concerned in the management of the organizations enables the executive to include political activity in the programme."

I have been closely identified as an officer of my own society, the Protestant Alliance Friendly Society of Australasia, for nearly 40 years and a member of the chief or grand executive for 30 years, and as a society limited to one faith we might be thought to take some part in politics. But I am in the happy position to give an unqualified denial to your statement that the executive have included political activity in our programme.

Further, the discussion or consideration of any matter affecting politics is forbidden in any of our lodge meetings. I have also been closely identified for many years with the Friendly Societies' Association of New South Wales, at present time being Honorary Secretary, and I can assure you that in our meetings, composed of representatives from all friendly societies, we have never permitted any business of a political character to be introduced.

It is grossly unfair that the objects of friendly societies should be so misrepresented and I crave space in your journal for my denial to your assertion.

Yours, etc.,

JNO. SALMON,
Grand Secretary.

12 Castlereagh Street, Sydney,

February 27, 1920.

[The statement to which our correspondent refers should have been modified to avoid the impression of general application. The medical profession in Australia has long been aware that several of the friendly societies do not follow a political activity and will be gratified to learn that the discussion of political matters is forbidden by the rules of the Protestant Alliance Friendly Society of Australasia.—Ed.]

Proceedings of the Australian Medical Boards.

QUEENSLAND.

The undermentioned have been registered, under the provisions of *The Medical Act of 1867*, as duly qualified medical practitioners:—

Chauncey, James Hornidge, Brisbane, M.R.C.S., Eng., L.R.C.P., Lond., 1904.
 Nott, Lewis Windermere, Mackay, L.R.C.P., L.R.C.S., Edin., L.F.P.S., Glasg., 1918.
 Rosenthal, Cecil Phillip, Nambour, M.B., Univ. Syd., 1916.
 Stuart, Gerald Eugene Macdonald, Rockhampton, M.B., Ch.B., Univ. Melb., 1914.
 Sutton, Neville Graham, Brisbane, M.B., Ch.M., Univ. Syd., 1916.
 Thomas, Edward Brooke, Brisbane, M.B., Ch.B., Univ. Adel., 1911.
 Welch, Herbert Locksley St. Vincent, Charleville, M.B., Ch.M., Univ. Syd., 1914.

We regret to record the death on March 1, 1920, of Dr. Thomas Sydney Davies, of Lockhart, New South Wales.

Medical Appointments.

Dr. W. H. Jermyn has been appointed Public Vaccinator at Quairading, Western Australia.

During the absence of Dr. Gregory Sprott (B.M.A.), Dr. T. Butler (B.M.A.) has been appointed Acting Quarantine Officer at Hobart.

Dr. L. G. Tassie (B.M.A.) has been appointed Deputy Quarantine Officer at Wallaroo, South Australia.

The Board of Public Health of Victoria has approved of the appointment of Dr. Cyril Checchi (B.M.A.) as Officer of Health for the southern portion of the Shire of Ararat.

It is announced that Dr. H. M. Jay (B.M.A.) has been appointed an Honorary Surgeon to the Department of Diseases of the Ear and Throat at the Adelaide Hospital.

Dr. Donald S. Mackenzie (B.M.A.) has been appointed Government Medical Officer at Urana, New South Wales.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xxiii.

Quarantine Department, Melbourne: Assistant Bacteriologist, Sydney Hospital: Various Vacancies on the Medical and Dental Staff.

Mittaburra Hospital, Queensland: Medical Officer.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	All Friendly Society Lodges (other than the Grand United Order of Oddfellows and the Melbourne Tramways Mutual Benefit Society), Institutes, Medical Dispensaries and other Contract Practice. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Australian Natives' Association. Brisbane United Friendly Society Institute. Cloncurry Hospital.

Branch.	APPOINTMENTS.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIA. (Hon. Sec., 6 Bank of New South Wales Chambers, St. George's Terrace, Perth.)	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. Newcastle Collieries—Killingworth, Seasham Nos. 1 and 2, West Wallsend. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phoenix Mutual Provident Society.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

- Mar. 9.—Tas. Branch, B.M.A.
- Mar. 9.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
- Mar. 11.—Vic. Branch, B.M.A., Council.
- Mar. 11.—N.S.W. Branch, B.M.A., last day for nomination of candidates for election to the Council.
- Mar. 11.—Q. Branch, B.M.A., Council.
- Mar. 12.—S. Aust. Branch, B.M.A., Council.
- Mar. 16.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
- Mar. 17.—W. Aust. Branch, B.M.A.
- Mar. 23.—N.S.W. Branch, B.M.A., Council.
- Mar. 25.—S. Aust. Branch, B.M.A., Branch.
- Mar. 25.—Q. Branch, B.M.A., Council.
- Mar. 25.—N.S.W. Branch, B.M.A., return of ballot papers for election of members of the Council.
- Mar. 26.—N.S.W. Branch, B.M.A., Annual Meeting.
- Mar. 27.—Eastern District Med. Assoc. (N.S.W.), Port Macquarie.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.
 Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.
 All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney. (Telephone: City 2645.)